• JUNE 1956

BUTANE-PROPANE News

A CHILTON PUBLICATION

NEW FACTS ON TANK COLORS

Sixteen more flaming markets

HEADQUARTERS FOR L.P. GAS INFORMATION SINCE 1931

With assured production from strategically located supply sources, many of which are among the nation's largest, and with ample storage facilities, both above and underground, Tuloma offers contract customers the assurance of adequate product supply delivered in clean, modern tank cars from our ever-increasing fleet.

The Tuloma customer, too, knows he can expect a helping hand from the highly-trained members of our LP-Gas staff who give their personal attention to all customer requirements and operations.

Why Don't You Contact Tuloma Today?

TULOMA GAS PRODUCTS COMPANY

PHONE CHerry 2-3261 • BOX 591 • STANOLIND BUILDING • TULSA 2, OKLAHOMA

LARGE or small

Model PC-420A
(with embossed collar)
91-lb. Propane Torch Cylinder

Model PC-5

Model PC-20

Model RC-20

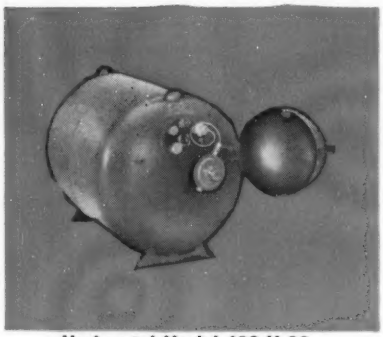
Hackney has 'em all

More than 45 different sizes and types of LP-Gas cylinders are regularly available through your Pressed Steel Tank Company representative. Whatever your cylinder needs—from one-pound torch cylinders to 420-pound giants—Hackney has 'em all.

And all give you the famous Hackney quality features which have made Hackney Cylinders the most popular throughout the industry. From five pounds up, all are two-piece construction with minimum seam area—only a single weld around the circumference. All are made from selected high-quality steel, by the Hackney deep drawn process. Their good designs are appreciated by your customers. Their light weight means easier handling...lower transportation costs for you.

Made and tested to comply with ICC Regulations. Expertly welded. Heat treated to increase strength resistance. Sturdy foot rings stand abuse. Careful coating protects against the elements.

Protective collars...removable hoods...or removable caps—as you require. Send for detailed specifications.



Horizontal Model 420 H-29

Pressed Steel Tank Company

Manufacturer of Hackney Products

1487 South 66th Street, Milwaukee 14, Wisconsin

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LP-GAS CONTAINERS FROM ONE POUND TO 30,000 GALLONS

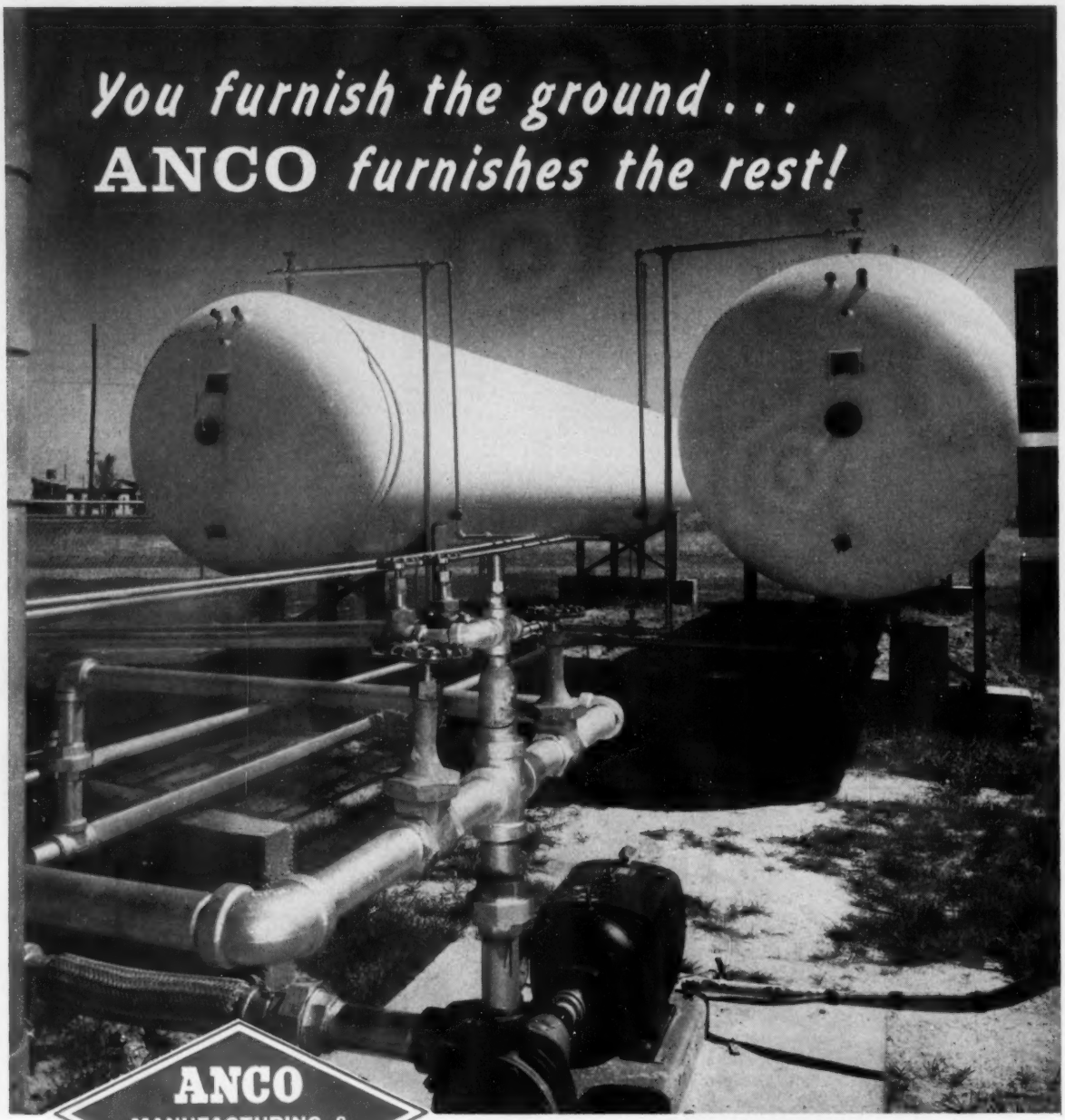
How Rockwell LP-Gas Meters Help Solve The Storage Problem

Use Your Customers' Tanks For Storage

With Rockwell vapor meters guarding every service, you can double or triple your storage facilities by keeping your customers' tanks full. Thus you can serve many more customers without adding to your present plant. You can buy LP-gas in larger quantities and at a price advantage during the off-peak season. And you can save on year 'round delivery costs. Get facts now on all the advantages that go with metering. Write for bulletin.

ROCKWELL MANUFACTURING COMPANY

PITTSBURGH 8, PA. Atlanta Boston Charlotte Chicago Dallas Denver Houston Los Angeles Midland, Tex. New Orleans New York N. Kansas City Philadelphia Pittsburgh San Francisco Seattle Shreveport Tulsa
In Canada: Rockwell Manufacturing Company of Canada, Ltd., Toronto, Ontario



ANCO
MANUFACTURING & SUPPLY CO.

for ALL LPG Equipment

Whatever you need — Call ANCO — where complete LPG warehouse stocks are available. If you need a complete bulk plant, ANCO will handle everything from design to erection — or ship knocked-down for you to build. Depend on ANCO for *Everything* in LPG equipment.

ANCO Manufacturing & Supply Co.
P. O. Box 1066 Tulsa, Okla. LUther 4-6187
Des Moines • East St. Louis

FAMOUS FLINT TANKS

ANCO handles famous Flint Tanks which are designed and fabricated to assure extra years of safe storage and low, low maintenance costs year after year. All sizes are available, and conform with regulations and specifications of all authoritative bodies in LPG field.

FLINT STEEL CORPORATION
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A CHILTON PUBLICATION

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JUNE 1956

BUTANE-PROPANE News

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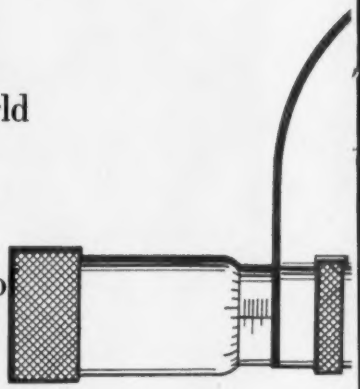
Trinity

TRINITY

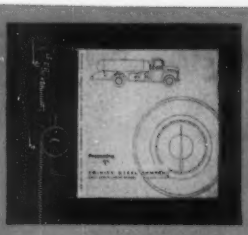
THE MARK

OF PRECISION ENGINEERING



Trinity's products are known all over the world as the finest there is. Years of experience in building Delivery Equipment guarantees you exceptional operating performance, economy o upkeep and repairs, and bonus payloads. A TRINITY Unit is truly your mark of distinction . . .

Remember . . . the successful dealer saves time – saves money – does more business in TRINITY EQUIPMENT.



the NEW TRINITY STORY

Write today for your beautiful 16-page booklet covering the entire Trinity line of truck tanks, storage tanks and transports.

MEMBER LIQUIFIED PETROLEUM GAS ASSOCIATION INC. LPGA

Trinity goes to Mexico

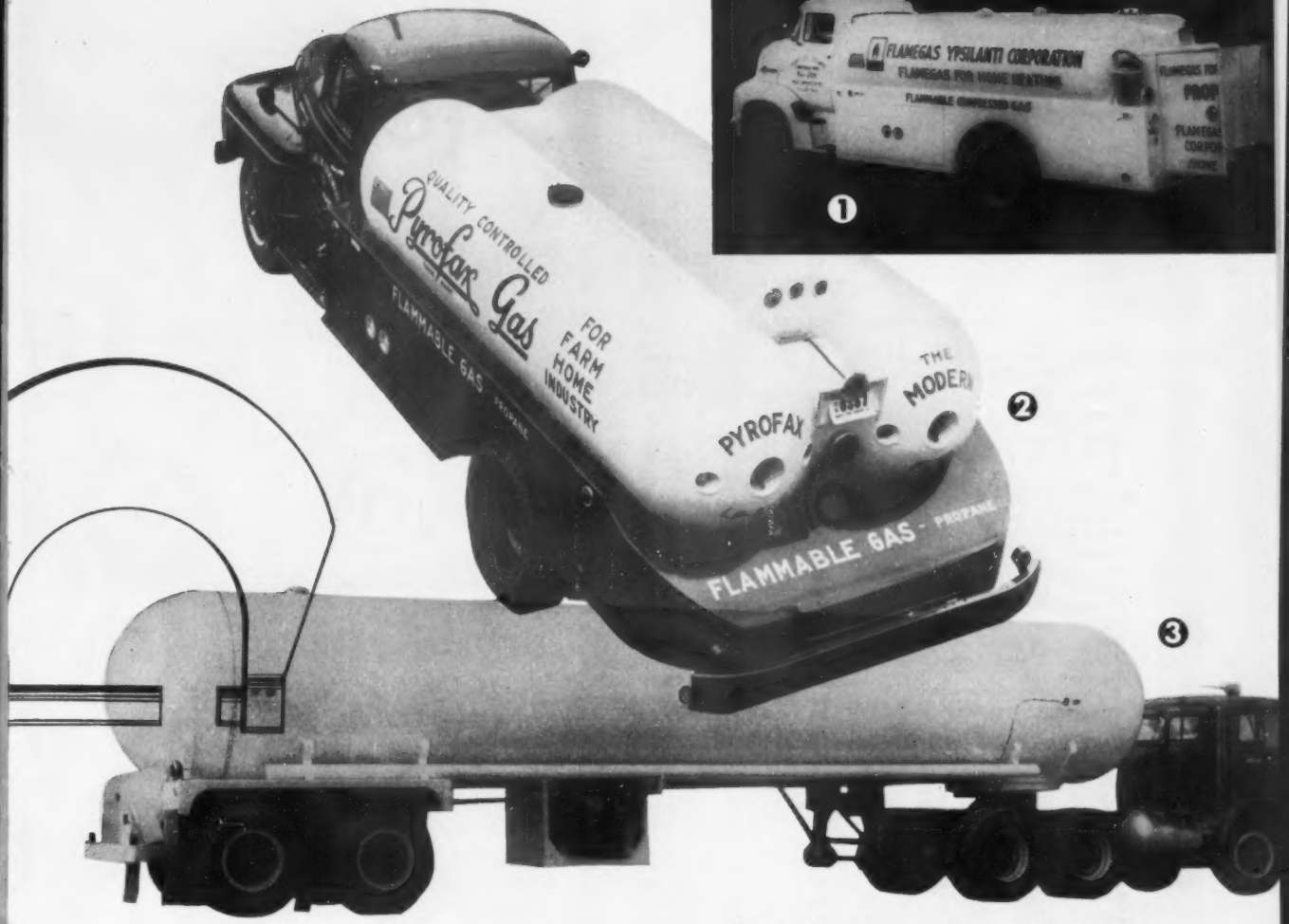
— TATSA —

Tanques de Aceros Trinity

S. A. Calle Poniente 150-#734

Mexico 16, D.F.

3301 SOUTH LAMAR STREET



① **111** 2300 WG 46" Twin-XR-23,400# GVW. 17,000# Rear Axle

② **106** 250 lb. WP and ICC MC-300-1400 WG or 1700 WG Capacity

③ 9275 WG-26,000# 76½ I.D. Rig Total 49'—4" W.P. 265#—Gross W.T. w/87½% Propane 70,000#

ASK US—about financing your new trucks, 25% down, balance monthly.

Trinity

TRINITY STEEL COMPANY, INC.

EVEREADY GAS SYSTEMS

DALLAS, TEXAS • HA 8-8321

LP TRAC-TOR CUSTOM-BILT TANKS

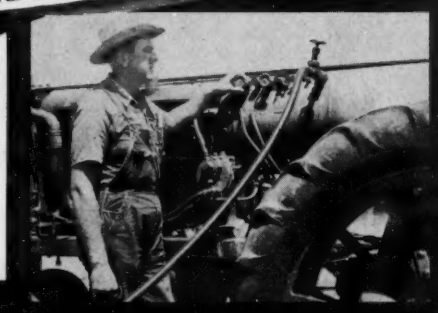
Make and Model	Water Capacity	Size	List Price
ALLIS CHALMERS			
DC-WD-WC & WD45	22	18 x 27	$114.87
B	15	18 x 18	109.10
CASE			
D & DC	22	20 x 20	109.62
L-LA-LAI (Standard)	31	20 x 29	122.34
L-LA-LAI (Special)	42	24 x 29	136.64
SC	20	16 x 28	106.84
VAC	13	14 x 23	103.90
JOHN DEERE			
A*	30	18 x 35	132.64
B*	22	16 x 32	126.53
D	46	20 x 38	131.52
G*	34	18 x 40	129.58
40	25	18 x 30	123.61
50*	28	16 x 42	129.58
60*	34	18 x 40	132.51
70	41	18 x 44	134.25
MTI	13	12 x 29	100.99
FORD			
800 & 600 (place of gas tank)	18	15 x 31	117.42
Rear Mount	24	16 x 32	109.62
Jubilee (place of gas tank)	18	15 x 31	117.42
800 & 600 (place of gas tank)	18	15 x 31	115.00
8 N End Fit	15	16 x 22	110.38
FERGUSON			
Rear Mount	24	16 x 32	109.50
T 20 & 30	13	14 x 23	104.00
35	19	16 x 27	107.00
INTERNATIONAL			
Farmall A or B	20	16 x 28	113.50
Farmall H* (Standard)	27	20 x 27	122.75
Farmall H* (Special)	39	24 x 27	140.54
Farmall H (Underhood)	22	16 x 30	114.34
Farmall M* (Special)	39	24 x 27	134.96
Farmall M* (Standard)	27	20 x 27	122.85
Farmall M* (Crossmount)	37	24 x 25	133.22
Farmall M (Understeering)	28	18 x 32	130.69
Farmall C and Super C	20	16 x 28	104.00
Farmall 300	22	20 x 22	134.26
Farmall 400	38	24 x 26	139.85
Utility 300	19	14 x 33	107.90
W6	25	20 x 24	116.93
W9 (Standard)	41	20 x 35	126.62
F-30	26	18 x 30	125.51
W9 (Special)	54	24 x 35	134.25
F-20	33	24 x 24	125.50
MTA	41	20 x 35	132.69
MASSEY HARRIS			
101 Jr. & Sr.	25	20 x 24	124.41
44 (Row Crop)	33	20 x 30	120.98
44 (Wheatland)	26	20 x 24	124.57
30	19	18 x 24	114.92
55	32	24 x 23	133.75
22	11	12 x 22	126.34
33	27	20 x 27	122.85
MINNEAPOLIS MOLINE			
UB	33	20 x 30	120.98
UTU & 1955 UTB High Mount	33	20 x 30	120.98
Z & ZUT	26	18 x 30	120.82
UTU Hood Level End Fit	27	20 x 27	122.85
1951 ZA	24	16 x 32	126.12
UTI	28	18 x 32	132.53
GTB (Special)	60	24 x 38	153.27
GTB (Standard)	45	20 x 38	136.05
OLIVER			
70 (in place of gas tank) End Fit	20	18 x 24	118.50
77 End Fit (in place of gas tank)	20	18 x 24	118.50
88 Super (in place of gas tank)	33	20 x 30	120.00
55 Super (in place of gas tank)	18	15 x 30	112.00
60 (in place of gas tank)	22	20 x 22	116.70

All Prices F.O.B. Denton, Texas

***Steering shaft through tank.**

Whatever You Need in Quality LP-G Equipment

THERE'S A Nor-Tex UNIT READY FOR DELIVERY



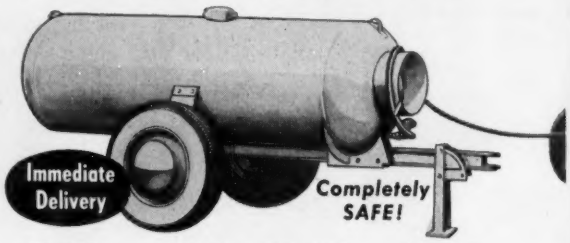
Sell Tractor Conversions...

A Real Customer Service!

Conversion business is booming! Users report up to 60% savings on fuel cost . . . Oil consumption amazingly reduced up to 80% . . . Engine wear reduced 75% . . . Sensational 2 to 1 engine life ratio . . . Oil dilution and carbon deposits practically eliminated . . . Repairs slight, due to absence of sludge, varnish and gum . . . Replacement of parts practically nil! TELL these advantages of LP-Gas in Internal Combustion Engines and you'll SELL conversions of all types of mobile and stationary equipment.

Nor-Tex FARM CART

Spots The Fuel Where It's Needed!

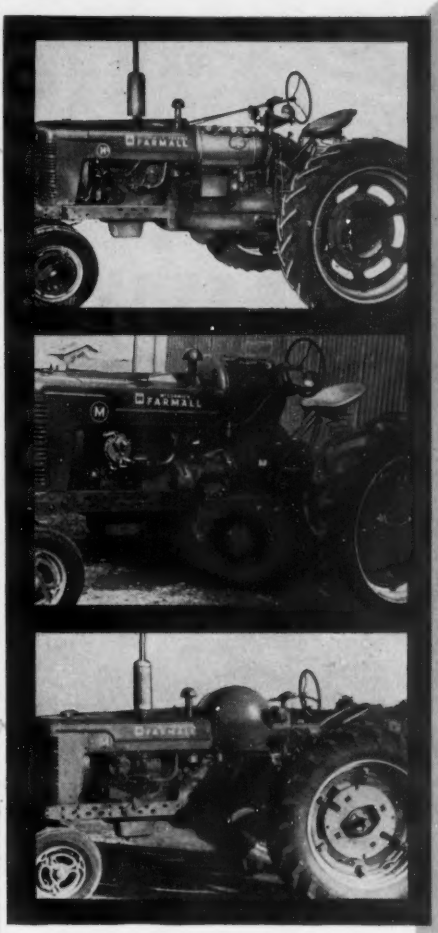


150 WG	$234.30	300 WG	$301.50
250 WG	272.10	500 WG	364.50

Farmers save many hours by placing their fuel supply right where they need it with the well-baffled Nor-Tex Farm Cart. It is completely safe and easy to "spot" with car, truck or tractor. Complete with recessed relief valve, 12½' delivery hose, ¾" OIC valve and hose coupling. Mounted on a heavy duty axle with standard Chevrolet hub and 15" wheels. Add $29.75 if 15" equipment tires are desired. Sturdy I-Beam tongue.

In Canada It's Calgary Steel Tank, Ltd., MacLeod Trail Sub-Post Office 28, Calgary, Alberta

Central 5416 **NORTH**



Boost Year 'Round Sales and Quotas With PORTABLE Nor-Tex "PONIES"

Nor-Tex "Ponies" (strategically placed for best distribution) are substantially boosting year-'round sales and quotas for bulk plants everywhere. Note the large, *completely enclosed* cabinet, its convenient arrangement of fittings and ample meter room.

Each "Pony" is carefully tested and checked for fast, efficient, trouble-free service and complete safety in dispensing LP-Gas. Designed for easy moving . . . place them in highway service stations, on farms and ranches and in truck and bus terminals. Place them "on-the-job" for contractors and utility companies. They can profitably balance your Winter load!

SIX POPULAR SIZES

500 WG	$ 713.80
700 WG	820.45
1000 WG	1,069.00
2000 WG	1,615.90
3000 WG	2,156.65
4000 WG	2,895.25

• Complete with 110V, Single Phase Motor and Choice of Corken No. 10 or Viking GG 196 Pump • 1¼" OIC Valves and 1¼" Strainers • Rigidly Built on Heavy Skids • Roomy Cabinet with Locking Double Doors • 25' Filler Hose (Coupled and Valved) • White Enamel Finish • Meets All Code Requirements — U69 — W250WP • All Prices F.O.B. Denton, Texas.

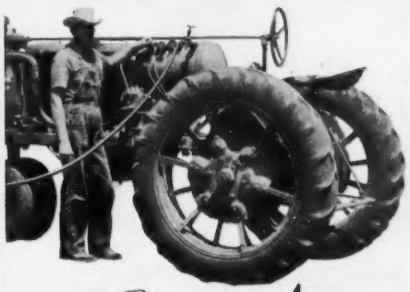
Sizes and Prices Other Than Listed Furnished on Request

EXTRA ITEMS

Signboard	$ 25.00
Lettering	10.00
Neptune Meter, Installed	321.00
Neptune Print-O-Meter, Installed	381.00
5-lb. Fire Extinguisher w/mtg. bkt.	44.22
20-lb. Fire Extinguisher w/mtg. bkt.	70.00
30 Gal. Corken or Viking Pump	170.00
20 Gal. Corken or Viking Pump	150.00
Hand Wind Hose Reel	49.50

Meter Tickets For All Make Meters

Prices on Other Pump Sizes Furnished on Request



Complete LP-G Bottle Stations

PAT. PENDING

Nor-Tex LOW COST LPG Financing — A PLAN TO MEET EVERY NEED!

IN THE U. S. AND CANADA

National Sales Agents For North Texas Tank Co.

Write, Wire or Phone for Prices

Nor-Tex PRODUCTS COMPANY

Popular Nor-Tex STAR Domestic Tanks

Immediate delivery on one or truckload lots. Every custom designed Nor-Tex Star is fabricated to rigid specifications and double tested. They exceed national, state and local requirements. Each tank is smoothly finished and aluminum painted over red oxide. These are the safest, finest quality tanks you can buy.

250 WG	$145.00
500 WG	227.00
1000 WG	384.90

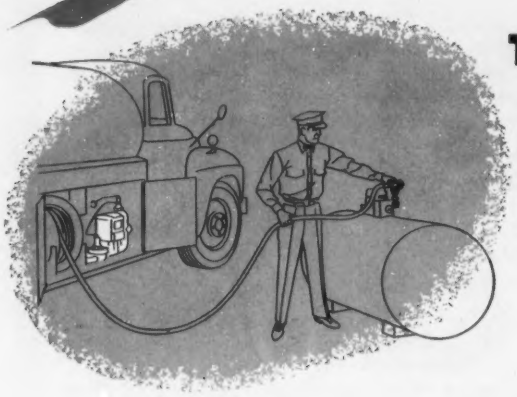
2%, 10 days, Delivered in Truckload Lots in our trade area.

Prices and Specifications Subject to Change Without Notice

TEXAS TANK CO.

P. O. Box 1219
Denton, Texas

New



TWO LARGER RED SEAL LIQUID METERS

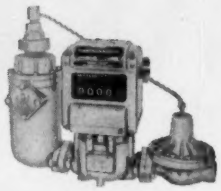
for faster bulk deliveries

If you're like most LP-gas men your average bulk deliveries are getting bigger . . . and you have more customers to serve each day. Now is the time to increase profits by reducing time per gallon . . . . . with bigger pumps and these big new Red Seal LP-Gas liquid meters to get your trucks in and out minutes faster . . . with close control over inventory.

In principle and quality they're the same as the popular time-tested 1¼" Red Seals. All three sizes give you a complete, accurate truck or bulk plant metering system in one compact unit . . . with the new Neptune-designed differential valve and vapor-release "team" that's easy on the pump. Listed by Underwriters' Laboratories. Your choice of ticket-printing or direct reading registers.

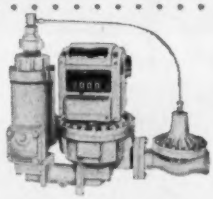
Free Bulletin 779
shows recommended closed-system installation of LP-Gas liquid meters. Ask for your copy today.

1½"
60 GPM



Compact light weight unit takes only 23" in truck compartment, includes all accessories for accurate metering. Capacity 12 to 60 gpm. Safe to 250 psi. working pressure. Ticket-printing or direct-reading register.

2"
100 GPM



For larger tank trucks or bulk plants. Approved metering system complete in one assembly. No "extras" to buy . . . fewer connections to make. Capacity 20 to 100 gpm. Working pressure 250 psi. maximum. Length 26". Ticket-printing or direct-reading registers.

RED SEAL LP-GAS LIQUID METERS

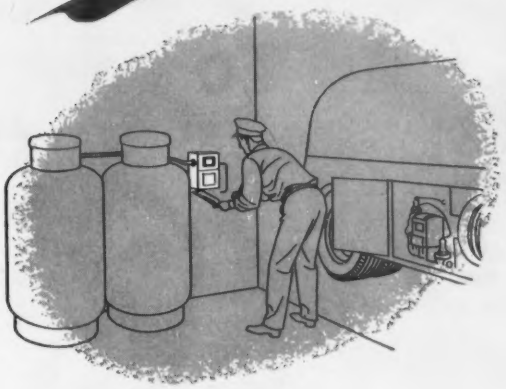
neptune

RS 16

Accuracy You Can Bank On

NEPTUNE METER CO., 19 West 50th St., New York 20, N. Y. *Canadian Factory:* **NEPTUNE METERS LTD. Toronto 14, Ont.**

New



NEPTUNE BLUE SEAL LP-GAS VAPOR METERS

for gas metered service

Neptune, long the leader in liquid LP-gas meters, now proudly introduces the Blue Seal vapor meter for LP-gas dealers who feature gas-metered service.

Only 9 inches wide, the new Blue Seal accurately records all LP-gas consumption ranging from pilot burner to full household load. Its sturdy brass case is thoroughly weatherproof for outside settings.

Design of the new Blue Seal is based on the two-diaphragm slide valve used for over a century by gas utilities, with a fine record for long life, sustained accuracy and low maintenance. The new Blue Seal is manufactured by experienced craftsmen at Neptune's Superior Meter division, makers of fine gas meters since 1912. And it's moderately priced. Get all the facts today. Call your nearest Neptune branch office.

New Blue Seal Bulletin now ready for your files. Ask for it today.

NEPTUNE BLUE SEAL NP-40 LP-GAS VAPOR METER

RATED CAPACITY:
42 cfh propane, 37 cfh butane

WORKING PRESSURE:
2 lbs. per sq. in. maximum

DIMENSIONS:
11⅜" high, 9" wide, 7½" deep

CONNECTIONS:
Std. male flared, for ⅜" copper tubing

INDEX:
Direct reading or dial reading, calibrated in cubic feet, pounds, therms, decitherms, gallons, etc.

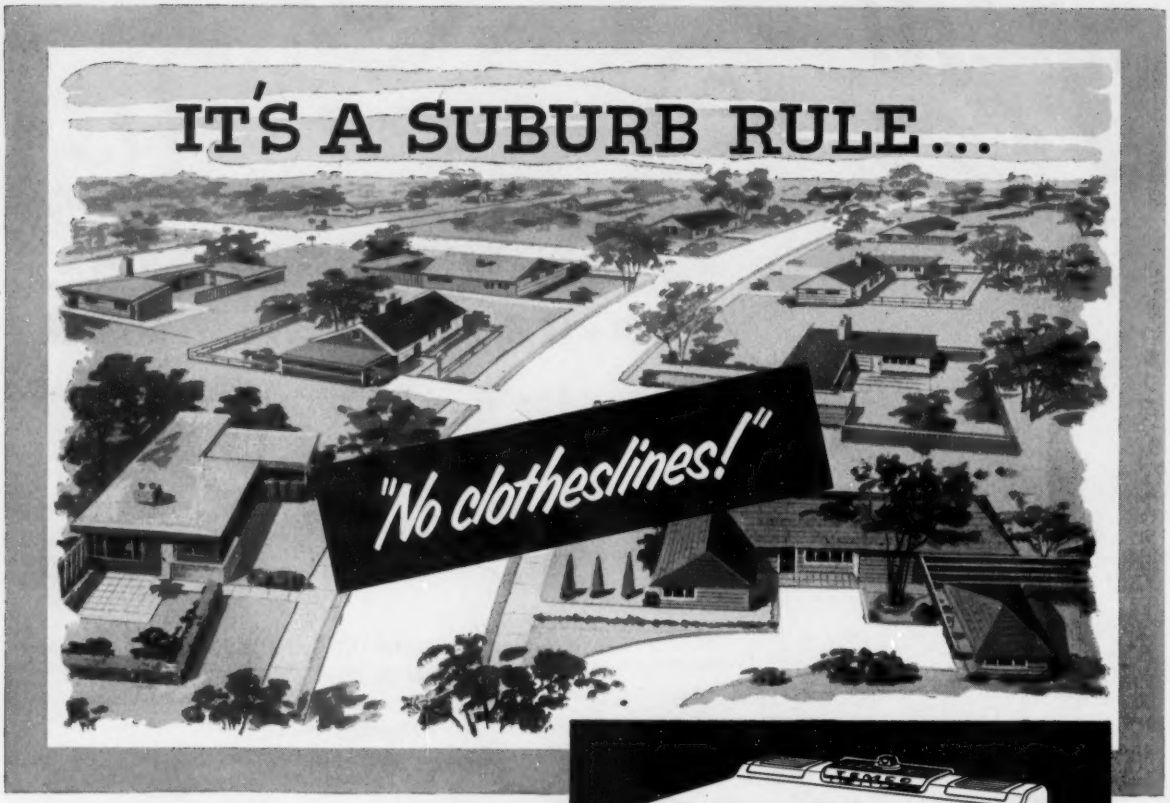
BLUE SEAL LP-GAS VAPOR METERS

neptune

BS 6

Accuracy You Can Bank On

NEPTUNE METER CO., 19 West 50th St., New York 20, N. Y. *Canadian Factory:* NEPTUNE METERS LTD. Toronto 14, Ont.



Yes, many suburbs simply outlaw clotheslines. In many others they're banished by mutual consent.

That's why today's mass migration to the suburbs and trend toward outdoor living is also a Temco trend, building impressive sales for Temco dealers coast to coast.

Temco's Automatic Gas Clothes Dryer is not only improving the suburban view, but also freeing thousands of housewives from hard work and weather worries. It's the ultimate in home-laundry convenience. Tell your customers about these . . .

THREE TEMCO EXCLUSIVES:

- ★ **Wonderful Mistaway—Temco's specially developed high velocity blower.**
- ★ **Knee-High Push-Button Door—the easiest to open of all dryer doors.**
- ★ **Exclusive Sun Dial—just one control to set.**

AMERICAN GAS ASSOCIATION · APPROVED · COMPLIES WITH NATIONAL SAFETY REQUIREMENTS

REPLACEMENT OR REFUND OF MONEY
Guaranteed by Good Housekeeping
IF NOT AS ADVERTISED THEREIN

It's Hot and Cool!

TEMCO'S AMAZING COOL CABINET HEATER, with AIR-FLOW REFLECTOR*!

*PAT. PENDING

Yes, Temco dealers all over the country are growing more prosperous daily, thanks to Temco's Cool Cabinet Automatic Gas Heater—the only unvented gas heater on the market with Air-Flow Reflector.

Air-Flow Reflector means a cool cabinet . . . no more burned hands or scorched curtains or drapes. It also means circulating heat without fans. Tell this exclusive Temco story and you can step out ahead in local unvented gas heater sales!

- ★ **Engineered to operate with equal efficiency on natural, manufactured, or L.P. gas.**
- ★ **Combines advantages of both radiant and circulating heaters.**
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Scheduled for early completion the new plant will utilize equipment obtained through the purchase by Beaird of the Butler LP-Gas Systems Division's facilities in Galesburg, Illinois. To the enlarged plant Beaird is adding the most modern equipment available for the production of LP-Gas systems. Beaird Safety-Built and Blue Belle systems will both be produced at Beaird Midwest.

Spanning the nation from strategic points of production, Beaird South in Shreveport, Louisiana, Beaird West in Stockton, California, and now *BEAIRD MIDWEST* exemplify Beaird's leadership in providing the finest in product and service to the LP-Gas industry . . . everywhere.

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BPN Washington Report

Grant Phillips tax aid

The Office of Defense Mobilization is granting Phillips Petroleum Co. permission to use accelerated tax amortization to help finance a $1,077,000 gas separating plant in Crane County, Texas.

The plant will be used primarily to process "wet" natural gas, but will also collect propane and butane.

Phillips, under two certificates issued by the Office of Defense Mobilization, is permitted to amortize 65% of $959,000 of the cost, and 40% of the remaining $118,000.

The Phillips certificates are among 73 issued in one two-week period recently for facilities costing $211.5 million, most of them for oil and electric power construction. Since the program started in 1950, some 20,916 fast tax amortization certificates have been approved for facilities costing $35.2 billion.

Farm income to dip again

Farm income is expected to drop again in 1956 for the fourth consecutive year. Latest U. S. Department of Agriculture predictions are that net farm income will slide to $10.4 billion this year, a decrease of $400 million from 1955.

Farm prices, farm costs, and farm income are expected by the USDA experts to remain at about current levels, which are down drastically from the first part of 1955, but about the same as the last six months of 1955.

Farm income in 1952 was $14 billion. It slipped to $13.4 billion in 1953; $11.8 billion in 1954, and $10.8 billion last year. Congress, in a highly political squabble, is trying to give the farmers some help and stop the declining income trend.

Back modernization program

Congress is going to support the business drive to encourage a 100 percent increase in home repair and modernization this year. A successful modernization program will reinforce demand for new LPG appliances and service.

A provision of this year's housing bill will raise the maximum amount a homeowner can borrow with Federal Housing Administration guarantees (Title I) from the present $2500 to $3500 and stretch the maturity from the present three years to five years.

The home fix-up drive could be extremely important to small firms serving the home supply market. Latest government statistics show that in the first three months of this year—when new home construction was lagging—the number of business failures among hardware, building material, and lumber dealers increased sharply. At the same time last year, failures decreased when building was moving strongly.

New building stays high

Construction of new homes, both in urban and in rural areas, evidently is going to remain at a healthy level for the balance of this year. This means a continued boom market for new furnaces and appliances powered by LPG. Mortgage money is harder to obtain than it was last year, but there's still plenty of steam in the construction drive. Builders will start at least 1.2 million new homes this year. And if the government eases up on credit terms, the total should hit 1.3 million or better.

Credit curbs hit some sales

Recent government actions tightening bank credit, although designed primarily to dampen excessive business exuberance, are slowing some types of retail sales.

Purchases of heavy appliances, automobiles, farm equipment, and other items normally purchased with long-term credit are feeling the shock of restricted credit. But government money-managers aren't too worried now about consumer credit because families took a breather in January and February, paying back $111 million more than they spent, before the total credit outstanding rose again in March to $180 million.

Some increase in consumer debt is expected, because of expanding population and continually rising incomes. The government is now worried about an apparent business credit binge—businessmen borrowed $1.1 billion in the first three months of this year, compared with $200 million in the same period last year. Bank interest rates were hiked again to make it a little harder for businessmen to get money to expand inventories, plants, and stores. It's working, too.

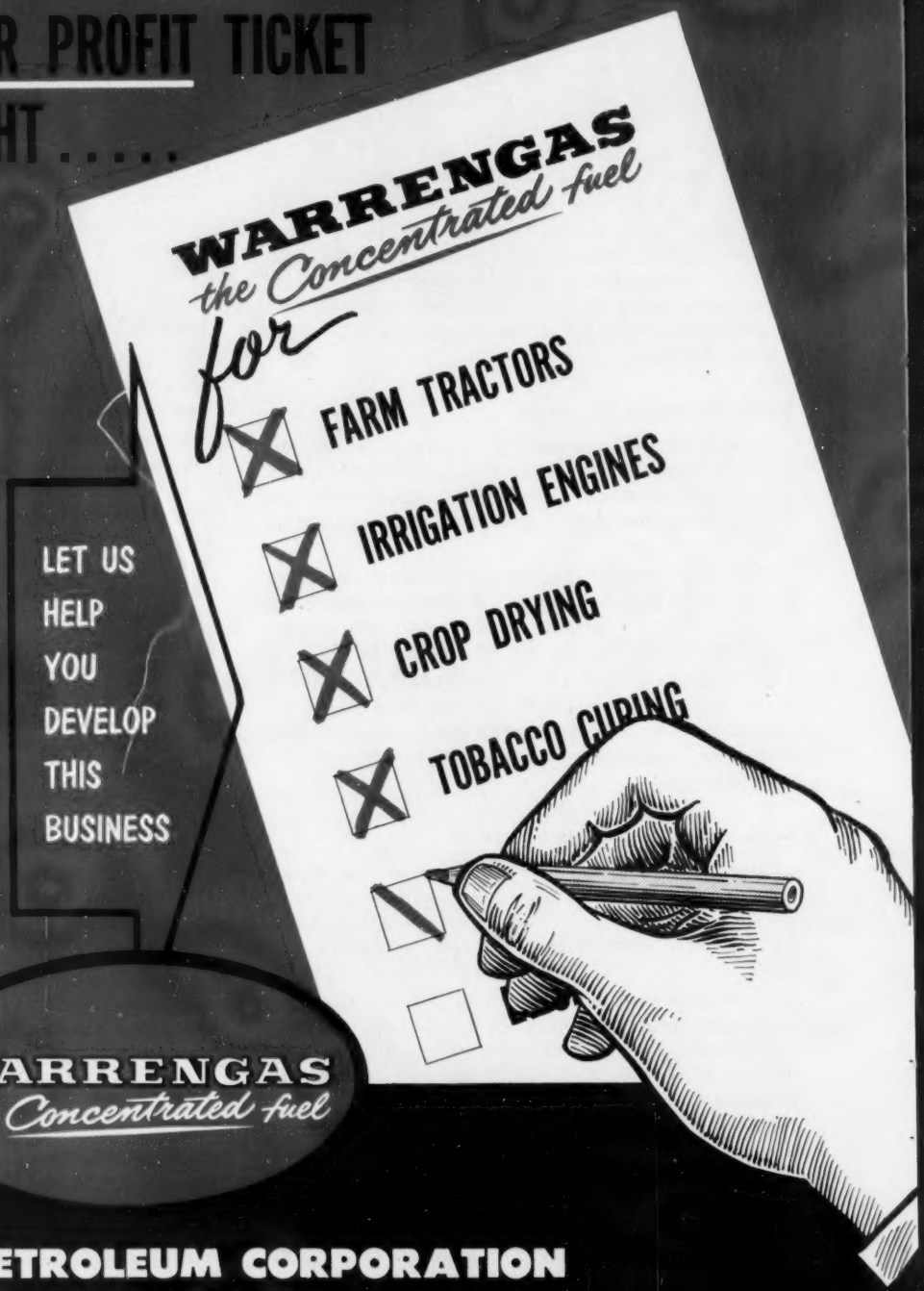
Government lends more money

Tighter bank credit is causing a big jump in the government's loan program. The number of loan applications received at the Small Business Administration has been rising steadily ever since the Federal Reserve Board told banks to stiffen their credit policies. In the past several months, more loans have been requested—and granted—by the SBA than at any time in recent years.

Several recent loans granted by SBA are in the butane-propane trade. Average butane-propane borrower is a small firm employing about a dozen people and seeking between $10,000 and $30,000 in credit for working capital purposes. (If you need funds for working capital and can't get an okay from banks in your area, write the Small Business Administration.)

End the hot weather "depression"

VOTE THE SUMMER PROFIT TICKET STRAIGHT.....



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Letters

Use only code tanks

Nebraska

We have recently acquired a domestic bulk butane customer who has an underground 500-gal. tank fitted with a slip tube gauge rather than a visible percentage level guage, and he has asked if a percentage guage could be put on the tank in place of the slip tube gauge. I am rather of the opinion that it can be done by merely removing the slip tube and bracket and replacing with the percentage gauge; however, I do not know that this can be done.

We cannot contact the manufacturer of the tank. As we stated above, it is a buried tank, and has no identification or specification plate placed anywhere on the lid, the casing, or on the controls, as is normally found on all tanks. But the opening and mounting bracket where the slip tube is mounted appears to be the same size as the small type percentage gauge.

Can the percentage gauge be installed in place of the slip tube, and if so, would it be advisable to do so?

I.C.W.

We believe you should make certain that the underground tank in question is a properly constructed code tank and that it is constructed for the proper working pressure to accommodate the fuel supplied. You have evidently searched for the name plate and tank data. It has either been destroyed, is located on a portion of the tank which is not exposed, or possibly it never had a data plate and isn't a code tank. Sometimes the information is stamped on the shell and not on a special nameplate or data plate. In this case it would be very difficult to locate.

The next best thing is to trace back to the fabricator, if possible, through the present owner to find out who installed it and eventually determine who manufactured it. This may be difficult, but we do not think it is advisable for you to service a tank which you are not sure is properly designed and fabricated for L. P. gas service. The risk to your company, your personnel, and the customer is not worth the price of a new tank or the sale of gas to a customer who will not cooperate.

Generally, slip tube gages have ¾ or 1 in. threaded connections. Some underground tanks have an extension from the tank up to near the tank manway cover. This may be a 2-in. connection.

It will be best for you to accurately determine the size of the opening (it may have a bushing in it), the diameter of the tank, the distance from the gauge connection to the top of the tank, and submit it to your gauge supplier and see if he has a unit which will fit the tank. A sketch would be helpful.—Ed.

How much odorant?

Tehran

Our company is a pioneer of L. P. gas utilization in Tehran, the capital city of Iran, where thousands of tons are available annually.

The actual business has been going about a year and within this short time we have made a good number of customers who make us think of unforeseen happenings.

Therefore, we request you to advise us of the standard rules and regulations regarding the smell of the gas to be utilized.

Should the gas be odorless as it comes from the refinery in the primary stages? In our refinery they use mercaptan which is disregarding our customers due to its unbearable smell. Or, should it be made to smell? If so, please advise us of the different types of smelling materials to be used in order that no danger of any explosion may occur.

M.K.

L. P. gas must be odorized and never used in its natural state except for special applications. It is the consumer's protection because it warns when leaks occur and unburned gas escapes.

The "Handbook Butane-Propane Gases" discusses odorants, the odorization of L. P. gases, properties of an ideal odorant and other pertinent information, including the amounts which must be added to provide a suitable concentration in the gas. We refer you to pages 75, 138, 139 and 175 of the Handbook.

There are two or three possible reasons why your customers are noticing the odor.

1. Too much odorant is being placed in the fuel. Not over 1 lb of ethyl mercaptan or 1.4 lb of amyl mercaptan should be added to 10,000 U. S. gal. This is about one-half pound per ton of L. P. gas. More than this will over-odorize the fuel and will be noticed after the gas is burned.

2. The L. P. gas as it is produced at the refinery may carry some sulfides or other organic sulfur compounds. If these sulfur compounds are not removed at the refinery they will produce the bad odor when the fuel is burned. Some of these compounds, plus the odorant which is added, will combine to cause the fuel to be over-odorized.

3. We do not know if you purchased all new tanks and cylinders when you started in business, or if you purchased some that had been used before. During a number of years, odorants and the oils which carry them tend to collect in the bottom of a cylinder or tank. They do not vaporize as readily as the L. P. gas, especially in cold weather. After a few years the concentraction builds up so that the gas placed in the cylinder is over-odorized. This is most noticeable when the fuel in the cylinder or tank is nearly all used and there are only a few pounds of L. P. gas remaining in the cylinder.—E.

Oil vs. Gas

Ohio

We have a customer who is interested in converting a 75-hp boiler from No. 2 oil to L. P. gas.

We are wondering if the cost of this conversion will be too great. By this we mean the fuel consumption.

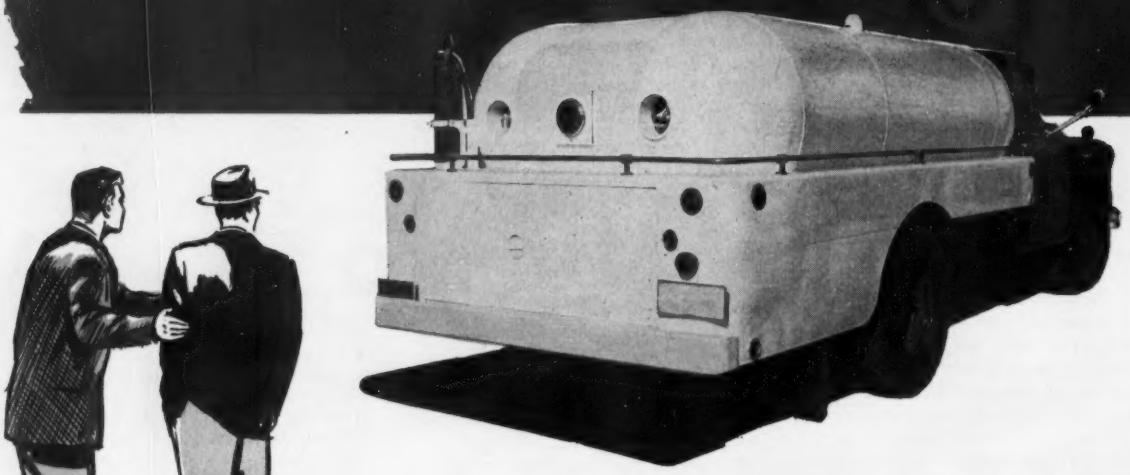
Could you give us an idea as to what the cost of running this boiler would be? This is for a greenhouse.

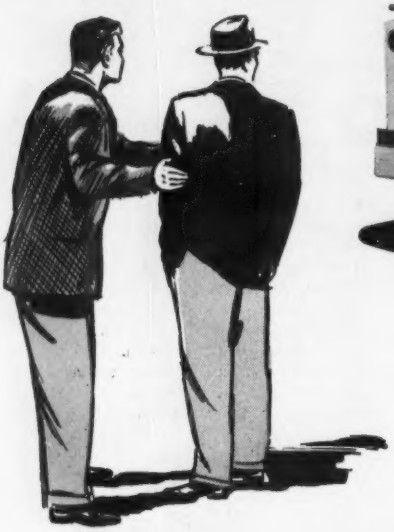
E.R.

We cannot give you the cost of running the boiler on the two fuels, that is, No. 2 fuel oil and L. P. gas.

A 75-hp boiler, properly maintained, should be as efficient on oil, even a little better, than on L. P. gas. However, they rarely are maintained as they should be for best results when used in the type of service that this boiler is providing. The main item is improper burner mainte-

All the features you want are in One Model of the LMC Home Delivery Unit





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1. Engineered Plumbing and Pumping.
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4. More Pleasing Appearance, Better Customer acceptance.
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Long after you've forgotten the original price of a piece of capital equipment, you remember how economical it operates, how efficiently it does the job, and how its general appearance impresses your customers. All of these features are incorporated in the design and engineering of the LMC Home Delivery Unit. Together they result in a performance that makes you, in profits, many times the original cost. All of the extras that add to your long range profit picture, but are sometimes overlooked in competitive models, are included in the LMC. Yet, the LMC Home Delivery Unit is competitively priced.

WRITE FOR ADDITIONAL INFORMATION, PRICES & PAYLOADS

LP Gas dealers throughout the nation have given Lubbock Machine products the strongest possible recommendation . . . that of re-ordering additional units after carefully checking the performance of their first LMC Unit.

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Buy on the LMC *Budget Plan!*

LOW MILEAGE COSTS

nance, which causes incomplete and inefficient combustion and operation for long periods of time.

All oil burners require electric power for their operation, either to operate the burner or to pump the oil and provide an air supply. Gas burners do not.

A 75-hp boiler operating at or near its rating should run at about 70% efficiency on gas, but under the usual conditions found on oil-fired units and the same conditions, 60% is a reasonable efficiency to expect.

This means that of the 92,000 Btu in a gallon of propane, 64,400 (92,000 x .70) leave the boiler in the steam. With oil at approximately 140,000 Btu for No. 2, only 84,000 Btu reach the steam. This means that 12 cents-per-gallon propane can compete with 14.65 cents-per-gallon No. 2 oil on a straight heat basis. No credit has been taken into account in these figures for the lower cost of maintenance and operating expense when firing with gas. Also, even with No. 2 oil, it costs about 1 cent per gallon for electric power for pumping, handling and burner operation. This immediately narrows the gap so that 13 cents L. P. gas can compete with the oil without consideration for other advantages of gas.—Ed.

Venting problem

Illinois

We have an 85,000 Btu floor furnace installed in a house with storm windows. This furnace is vented outside the house. There is condensation on the windows.

Is there anything we can do to eliminate this condition?

F.Y.

Check the combustion chamber of the floor furnace to be sure there are no openings where combustion products may be getting through to the room. Check the pilot lighting and flame inspection opening carefully to see that it is tight. It may not be closed tight or the gasket may be damaged slightly and is permitting some leakage.

We are inclined to believe that the moisture is coming from cooking, bathing and other uses of hot water and from moisture expelled by the occupants breathing. With storm windows and doors the house is tight and there is little or no ventilation. The moisture in the air in the house is near the dew point and the least bit of cooling, such as against the window pane, causes it to condense.

If your customer formerly had a coal or oil heating stove in the room, he probably does not realize that a considerable amount of fresh air was drawn into the house by the stove and its chimney to supply air to burn the fuel. With the floor furnace, air control is better and much less fresh air enters the living quarters. —Ed.

Cold room trucks

Ontario, Canada

We are desirous of obtaining at the earliest possible date information on the use of propane operated vehicles in connection with operation inside meat packing and general cold storage warehouses operating at 35-40° F.

We do not wish to be referred to suppliers of carburetion equipment since we have our own Canadian equipment.

We would like any information you can supply and/or the names of companies operating propane vehicles under the conditions indicated above, and we are primarily interested in what effect the products of combustion and ethyl mercaptan odorant have on food, with particular reference to meat and dairy products, etc.

L.D.M.

We understand that the following three companies are operating LPG powered trucks in cold rooms of approximately 35° to 40° F.

Ralphs Grocery Co., 4841 San Fernando Road West, Los Angeles.

Certified Grocers of Calif. Ltd., 2601 S. Eastern Ave., Los Angeles.

Union Ice Co., Stockton, Calif.

All of these companies have more than two years experience in the use of this equipment and we are sure that if you would address a letter to the superintendent of each company, they would be glad to report on the specific questions that you have in mind.

In our August 1954 issue we published an article on fork lift trucks equipped with propane carburetion and catalytic exhausts which are being successfully used in cold rooms of the Pictsweet corporation. This plant produces frozen vegetables and they would be in position to tell you exactly what their experience has been.—Ed.

Grounding procedure

Michigan

In connection with the handling of LPG products, in and out of cargo tanks such as railroad cars and tank trucks, there seems to be one point upon which standards are not entirely clear or specfiic. This is in connection with the method of grounding the cargo tanks during loading or unloading operations, either by means of a flexible grounding cable or through the medium of a metallic sheathing of the flexible hose lines.

We will appreciate any positive information relative to standards or accepted proper procedure relative to this matter in its several phases.

D.S.F.

The L. P. gas hose manufactured by many of the companies has a groundwire incorporated in it. When it is fitted with couplings the ground wire is bared near each end and brought in contact with the coupling fitting so that a ground connection is made when the hose is connected, provided that the piping and storage is adequately grounded.

It is preferred, however, to have a separate grounding cable which can be coupled to the car or truck by means of a suitable clamp before the hose lines are connected to the cars. It is also advisable to have the siding on which the railroad tank cars are spotted, insulated and grounded.

We are enclosing a print given us by the American Liquid Gas Corp. which shows in detail an approved method of banding and grounding railroad sidings where tank cars are spotted for unloading. —Ed.

Heating air volumes

Minnesota

We should like you to inform us as to the proper application of L. P. gas to processes involved in heating large volumes of air to temperatures ranging from 50° F to 250° F.

The volumes of air involved extend from ¼-in. static pressure, 10,000 cfm to 6-in. static pressure, and 250,000 cfm. The abovementioned temperatures of this air may have to be held under conditions of inlet air minus 30° F (—30° F).

Since this industrial application may be recently developed, we are not able to find any information or practical large scale installations in this area.

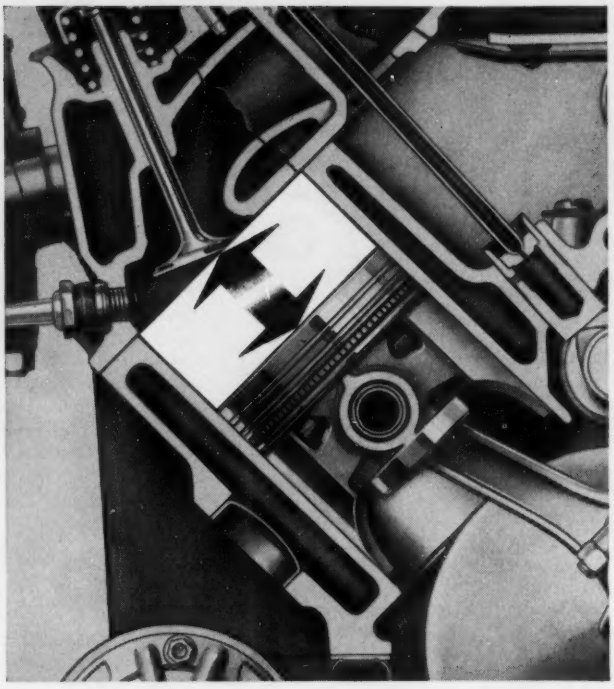
C.A.H.

L. P. gas may be either commercial propane or butane, or mixtures of the two. The propane has a much lower boiling point and therefore will not recondense in the lines at low pressure (20 lb or less) in cold climates. The heating value is 91,000 to 92,000 Btu per gal. of liquid.

Butane on the other hand has a heating value of nearly 103,000 Btu per gal. However, it has a higher boiling point (about 32° F above zero) and will recondense when subjected to low temperatures. It requires some special arrangements in the L. P. gas plant system and distribution piping for satisfactory operation in cold climates during the winter months. Means of mechanically pressuring the liquid, adequate vaporization capacity, insulating and possibly steam tracing the vapor lines and installation of heated drip legs will be required for satisfactory service. A competent, experienced and impartial L. P. gas engineer can advise you on this matter.

We suggest you check the advertisers that provide this engineering service in BUTANE-PROPANE News.—Ed.

SHORTEST STROKE V8 OF ANY LEADING TRUCK!



. . . one reason for top-notch fuel economy, low maintenance costs in this New Chevrolet Truck V8

That picture above gets right to the heart of a *modern* performance champ, the new Chevy Trademaster V8!* The arrow points up the *shortest stroke* of any leading truck engine—your assurance of power that eats up work while using less fuel, and minimum engine wear stemming from reduced piston travel.

This shorter stroke has brought about a whole new concept of more efficient engine design, exclusive with Chevrolet truck V8's. Because of it, Chevrolet engineers have been able to make the Trademaster V8 the *most compact truck engine on the market, with more horsepower per pound than any other.* "Dead weight" has been pared off to give you the efficient performance you want, more pound-pulling power!

So, remember this *special kind* of short-stroke design Chevrolet truck V8's now bring you. Remember what it means in terms of money-saving, profit-making hauling. Certainly, you'll want to see your Chevy dealer soon. . . . Chevrolet Division of General Motors, Detroit 2, Michigan.

**Optional at extra cost in 3100 through 4500 models.*

The dollar-saver that looks like a million!

Here's modern truck beauty that adds to your business prestige! Long, low, forward-sweeping lines provide good advertising for you wherever you go. And you'll go more easily, too, thanks to the nimble maneuvering these new Chevy models provide!

CHEVROLET

NEW CHEVROLET TASK·FORCE TRUCKS

Anything less is an old-fashioned truck!

beyond the mains

LONG WINTERS MAKE SHORT SUMMERS. The length and severity of the past winter magnifies the problem and the need for building summer sales to offset the heavy winter heating load. Already dealers are asking that contracts be revised to carry them through another hard winter. This is a good time to repeat what we have said so many times before -- the seasonal load can be balanced if enough industry people work hard enough at it in enough places.

Dealers in Maine and Minnesota may not be able to put their requirements completely in order through their own efforts, but they can still have all the fuel they need if enough dealers in Mississippi, Missouri and places south and west will bring up their summer loads to more than offset their own winter demand. And this is not just a dream -- there are numerous dealers in the farm belt whose summer sales exceed their winter demand. The producers are not worried about where the balancing comes from, so long as it comes.

In the meantime the dealers in the heavy heating areas can help themselves more than they imagine by working on the potential non-domestic accounts that are all around them. A review of the past year's issues of BUTANE-PROPANE News will pinpoint many of these undeveloped sales opportunities. It is true that dealers in northern and northeastern areas do not have the opportunities in the big load balancing activities like power fuel and weed burning that are available in the irrigated and long-season areas to the south and west. So what?

We will bet with any dealer that a systematic survey of his local territory will turn up more good non-domestic prospects for predominantly summer consumption than he is now serving. Will you gamble a few evening hours to find out where you stand? Just settle down in the quiet of your home, and leaf through this magazine and the past year's issues, and list the applications for L. P. gas that show up in the feature pages. Look particularly at those which offer predominantly summer consumption, but also consider the non-domestic uses which offer a year-round market. Both will be useful to you.

Continued

Suburban Propane Gas Corp., Whippany, N. J.

Fuelane Corp., Liberty, N. Y.

Pure Gas Service Company, Worland, Wyo.

WHY MODERN LP-GAS COMPANIES USE *metered* SERVICE

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METERS provide regular "city utility" type service.

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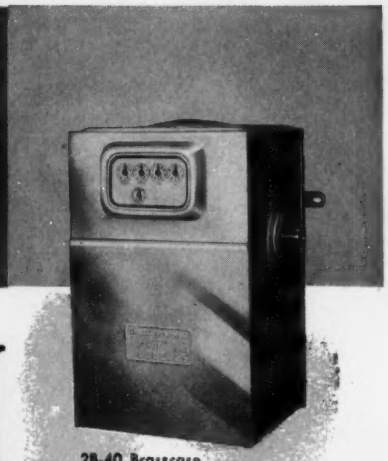
METERS diminish seasonal demand problems through on-customer-premise storage.

METERS simplify deliveries through regular delivery patterns without costly cross-hauling.

METERS reduce multi-service installation costs.

There is an American® LP-Gas Meter for every kind of installation — industrial, commercial, farm and home.

Write for full details:



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beyond the mains

Next, go through the classified section of your phone book and pick out every name under the classifications on your list. You will find many on whom you have never called. You will also find many that you are now serving for some other use who can be shown the advantages of using L. P. gas for some of the applications on your list.

Now you are just nicely started. There will be several of the best classifications on which the phone book gives little or no information. How many chicken raisers are not in the book? They need torches for cleaning up around the pens. Or they may need fuel for brooders. Large growers need incinerators to dispose of the birds that die. Or take the labor crews who maintain your streets and highways. Most of their work is done during the warm months. They need asphalt melters, pavement softeners, heat for irons to smooth out patches in pavements. How about your local contractors? Their needs parrallel those of the street maintenance crews. Someone around your community needs torches and burning machines to clear weeds and rubbish from highway borders, parkways, airports, industrial yards.

If you live where it rains so much that irrigation is not needed your customers probably have the problem of keeping drainage ditches from clogging with seasonal growth. Get the water cut of the ditch for only a few hours, and a burner will do more to open up the waterway than a crew of a dozen men. Nurserymen, market gardeners, bulb raisers, all of the intensive farmers growing specialty products need flame to control weed and insect pests. Most of these applications can be done with hand torches or simple machines built on tractors, and they will require higher consumption than the average domestic account.

Then there are the builders. Plasterers need heat to dry their work during periods of high humidity. Plumbers need melting pots and torches to make their installations and repairs. Roofers need heat to melt their tar. Painters need torches to burn off old scaling paint so they can produce a good foundation for new coats. Cement layers need tar melters for sealing expansion joints, and for making continuous water-seals behind foundation walls.

Have you used up all your prospects for summer fuel? The surface has hardly been scratched. A few hours spent in systematic research and a wideawake dealer organization looking for and reporting leads can dig up more prospects for summer fuel sales than can be covered by the sales department in the next two years. And before that campaign is finished BUTANE-PROPANE News will uncover a host of new applications that some other dealer is cashing in on in other places.

Earl Abell

NEW SMITH PUMP PLAN
Guarantees Customer Satisfaction

MONEY REFUNDED IF NEW SMITH PUMP PURCHASED DOES NOT DO A BETTER JOB THAN PREVIOUS PUMP USED

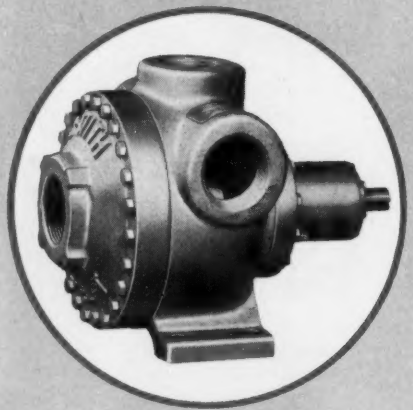
LPG is such a difficult liquid to pump that a distributor who has not had pumping troubles at one time or another is hard to find. If you are having trouble on one of your installations *now* (truck or bulk-plant), here is how we can *guarantee* to get you out of trouble.

1. Write a letter telling us what kind of pump you are using, what kind of trouble you are having, and what you think you should be able to do with this pump. The pump you are using can be any make or type, even an older Smith. Attach a rough sketch showing the pump piping, valves, and fittings, including sizes.

2. Immediately on receiving your letter, we will have our engineering department review the problem, and make a recommendation as to the proper size of pump to do the job the way you want it done. We will then send you prices and complete descriptive literature *at once*. We will also tell you if any changes need to be made to the piping, and, if necessary, even help you obtain any necessary new valves and fittings at lowest prices.

3. You then order the new pump, and we will give you a special written guarantee, signed by one of our officers, stating that the new pump may be returned for *full credit* if it does not do a better job than the pump you had been using. This guarantee will apply only if any suggested changes to the present piping are made before the new pump is placed in service.

We know of no better way to prove the sincerity of our advertising claims



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SMITH
PRECISION PRODUCTS CO.
1135 MISSION STREET, SOUTH PASADENA, CALIFORNIA

phone
RYan 12293
RYan 12691

White is a popular color in that it contrasts well with other colors used for lettering and is 30 percent more effective in reflecting heat than is aluminum. This Gulftane tank is at Searcy, Ark.

Life can be beautiful in a customer's yard

IN the April, 1952, issue BUTANE-PROPANE *News*, a suggestion was offered to readers which raised a number of eyebrows. As a method of sales promotion, it was recommended that bulk tanks be painted with the identifying colors of the firm which services them. There were some readers who felt at the time that any color other than aluminum would absorb heat and so cause undesirable tank pressures.

According to a study recently completed by a major oil company, BUTANE-PROPANE *News* was four years ahead of its time colorwise.

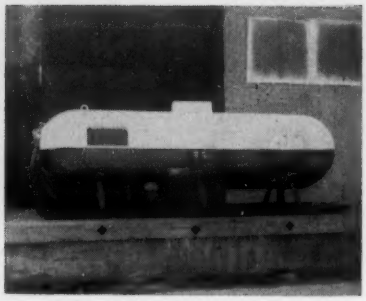
The idea that an L. P. gas tank must be painted aluminum is now being thrown out the window together with high button shoes. Tests show that LPG tanks—whether bulk or bottle—can be pleasing to the eye *and* be more effective in holding down vapor pressure if a light pastel color is used instead of glaring aluminum. This news should be of special interest when installing a tank at a nicely landscaped suburban home. Many householders consider that an aluminum tank lends a sour note to the verdant harmony of a lovely garden.

A light blue, for example, is almost 26 percent better for reflecting heat than is freshly painted aluminum, and almost 50 percent better than weathered aluminum.

Most people are aware that objects with light colored surfaces keep cooler than those with dark surfaces, when exposed to the sun's rays because the light colored surfaces reflect rather than absorb the sun's heat. A recent study, by E. L. Hoffman of Socony Mobil Oil Co., New

All tanks in the Thermotane yard, Modesto, Calif., are yellow, presenting an eye-pleasing appearance.

No mistaking who owns this nicely painted tank in Bono, Ark. That's Jerry Craft of Craft's L. P. Gas who uses color to dress up his storage facilities.



Butane-Propane Supply Co., Fresno, uses white on top, red on the bottom.

York, reported to the American Petroleum Institute in San Francisco in November 1955, under the heading "The Effect of Paint Colors in Reducing Storage-Tank Losses," gave some interesting details on this subject. The study was directed toward the reduction of evaporation losses from tanks storing volatile hydrocarbon liquids, but the principles are applicable to any painted structures.

It was found that the relative effectiveness of paint on metal surface, as a reflector or rejector of heat, was as follows:

Soot	7.5
Black	0.
Red (bright)	17.2
No paint	10.0
Red (dark)	21.3
Aluminum (weathered)	35.5
Gray	47.
Gray (light)	57.
Aluminum	59.2
Cream or pale blue	72.8
Green (light)	78.5
Gray (glossy)	81.0
Blue (light)	85.
Pink (light)	86.5
Cream (light)	88.5
White	90.
Tin plate	97.5
Mirror or sun shaded	100.

Note that the light pastel shades of cream, light blue and light pink are almost as effective as white and considerably more effective than aluminum.

In discussing the type of paint to use it is brought out that two qualities are needed—(1) ability to remain white or light colored by rejection of atmospheric dirts and resistance to staining, and (2) long life to keep down repainting costs. The recommended paint has a titanium dioxide pigment, and an alkyd resin or modified glyceryl phthalate vehicle, with high ratio of pigment to vehicle. The high pigment ratio minimizes dirt collection and staining, and also permits a slow chalking, which keeps the surface light colored. Chalking, of atmospheric dirts and resistance must not be excessive or repainting will be too frequent. The trick, which it is stated is within the capability of the paint technician, is to achieve "controlled chalking" and preserve an economic balance between whiteness and durability. ■

Trucks, too, can be attractive, carry an advertising message, and still keep desirable tank pressures. Some dealers paint trucks and bulk tanks to match.

Alamo Gas Co., Chowchilla, Calif., combines aluminum with color. The ends of each tank are painted every color of the rainbow, immediately identifying the tank.

One of the most unusual installations of griddle-type institutional cooking equipment in the country was recently completed by the University of Notre Dame at South Bend, Ind., when seven new Magic Chef fry top ranges were added to the kitchen. These, plus two fry tops already in use, gives a battery of nine, shown here in the first nine units, right to left.

Commercial cooking adds up to higher profit for dealers

By **TRACY B. MADOLE, Merchandising Manager** • Commercial Equipment Division, Magic Chef Inc.

Eating out has developed into a big business, one in which gas can and should play an important part. It offers added profits to the L. P. gas dealer in both appliance sales and year-around added gas volume. The share of the commercial cooking market that you acquire depends directly on the effort you as a dealer put into it.

NINETY milion American meals were served away from home yesterday. More will be prepared and served to customers away from home today and still more tomorrow. Away from home eating is an ever growing business. America, with its 70 million motor cars is a traveling, eating-out nation.

L. P. gas as a commercial cooking fuel, having come of age within the last decade, was slower to develop its sales potential in commercial kitchens than manufactured and natural gas because of distribution complications that kept the cost high, and the need for experience—mostly self education — among a somewhat heterogeneous group of L. P. gas distributors, which has retarded sales effort.

To compare the L. P. gas industry with the city gas industry, consider that there are approximately 1000 city gas companies in the United States, mostly well financed, organized, operating along well established lines, with experienced management, sound operating policies, well defined sales departments, and positive servicing practices. These companies serve over two million commercial customers.

By contrast, there are many thousands of L. P. gas distributors and dealers serving commercial customers. Some of these are big companies, but even these operate mostly through small, independent retail units. The great majority of L. P. gas distributors the nation over are practically on their own in the operation of their business, including sales. The result is often an indecisive ap-

proach to the business which short circuits commercial cooking.

If I were an L. P. gas distributor, I would strive to become known as "The Gas Company" in my area. In essence you are the gas company taking your franchise from each customer you serve. As such, you automatically assume the responsibility of building the integrity, the ambitions, and the reputation of the whole industry. You are a self-elected member of your team. The team needs you.

There are thousands of off-the-gas-mains commercial kitchen operators now using competitive fuels. All are prospects for L. P. gas. In addition, every present commercial L. P. gas user is a prospect for more and better commercial gas appliances. A kitchen equipped with a 10-year-old range is a prospect for a new one. In addition, it may need a gas deep fat fryer, gas coffee maker, gas griddle, gas bake oven, gas broiler, gas food table, gas toaster, gas bun warmer, gas steamer, gas kettle, etc., etc., etc. Then as the operation grows, the kitchen needs more of each. It's a healthy cycle for *The Gas Company* that's on the ball.

Currently, the school feeding program has substantial federal government support and encouragement. If you don't get it, your competitor will. It's good business and excellent sales promotion, especially in small-town communities where the volume cooking facilities are usually viewed and often actually employed by community housewives, who are themselves prospects for L. P. gas appliances and service.

Selling commercial appliances

Selling commercial appliances differs from household appliance sales because you are dealing in capital goods. Profit becomes an important factor since in the restaurant kitchen the incentive for operation is profit. Even in school, church, and hospital kitchens cost is a prime motivating factor, coupled of course, with adequate emphasis on what the appliance will do for the prospect.

It's helpful to keep in mind too that since this is capital goods equipment, it is chargeable against profits for income tax purposes.

Profitable savings

One of the greatest wastes in volume cooking continues to be excessive shrinkage in roasting meats. Two contributing factors are (1) lack of or inadequate temperature regulating facility, and (2) careless or improper use of oven heat controls.

It has often been proven by eminent home economists and unbiased testing authorities that an average of 14-15 percent roast meat saving is available to anyone who will roast properly at low controlled temperature. The lower the temperature, the greater the saving. Some operators roast meat at temperatures as low as 200°. Of course, this requires additional time but it has also been proven that fuel cost is lower when low roasting temperature is employed even though additional time is required.

Assume that a small restaurant kitchen does an average of 20 lb. of roast a day which is bought at an average price of 80 cents per lb. Fifteen percent of that amount saved amounts to a financial saving of $72 per month or $864 per year. Hence, the equipment not only pays for itself in a year's time, it actually returns a handsome dividend every day. Equally interesting to the progressive-minded restaurateur is the fact that the quality of meat roasted at low temperature is superior to that done in a hurry because juices are retained in the meat and flavor is thereby also retained. Better food makes satisfied customers and brings more of them.

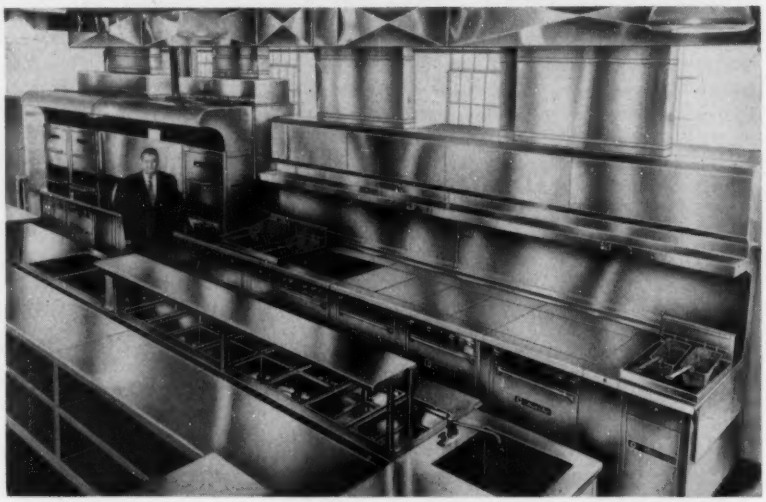
Hence, the commercial kitchen should be provided with adequate roasting oven capacity so roasting can be done unhurriedly and each oven must be equipped with accurate, dependable oven thermostat for controlled low-temperature roasting.

Trend in baking

A decade ago, most volume food service establishments bought most of their pastries from commercial bakeries. Today, because of the high quality premixes available, most operators do a major portion of their own baking. The process doesn't require high skilled help and in addition to reduced cost, the operator has the advantage of constantly fresh "home baked" pastries.

Of course, home-type baking requires extra oven capacity and every such oven requires accurate, dependable thermostatic control.

A further baking development within the last decade in the "take-out" business. Whereas few restaurants of a few years ago offered any pastries or other take-home items for sale, a large percentage of them now have both a variety of pastries and other prepared items which the housewife can take home with her for the family supper. Don't minimize this phase of volume cooking. It's big business. It's growing.



Pictured here are Mr. Ruggeri and his family of Magic Chef cooking units. From right to left, one deep fat fryer, three hot top ranges, one open top range, two deep fat fryers and three broilers. One three deck bake oven is not shown. These eleven Magic Chef units form a versatile cooking team that enables Ruggeri's to economically serve 4000 meals a day.

Roasting oven, lower deck, and baking oven, upper deck, conveniently stack flush one on top the other. Assures balanced heat for perfection in baking and accurately controlled low temperature for high quality roasting. Each deck is 31 in. wide, inside dimension, to hold one standard baking pan. Total burner rating 60,000 Btu.

Triple deck Magic Chef baking ovens. Each of the three baking oven decks is 42 in. wide, inside dimension, to accommodate two standard baking pans. Includes the unique Magic Chef red wheel regulator for dependable control of all baking temperatures and Magic-Lite for automatic lighting with safety pilot. Total burner rating 108,000 Btu.

It's profitable to the operator. It can be profitable to you.

Types of ovens

In promoting equipment service to the volume cooking account, *the gas company* tailors the equipment to the job. Commercial range ovens can and frequently do double as baking ovens. However, this presents the complication that both the baking and the roasting may be speeded up and neither operation lends itself to hurrying. The correct answer is additional oven space, tailored to requirement.

Double deck roast ovens

In addition to the range oven, a similar type unit known as the double deck roaster is often satisfacfactory for the small operation. This is an inexpensive unit requiring a minimum of floor space. Over the holidays or for other big days it will double for extra roasting capacity. With an extra wire rack in each oven it will handle up to eight 10-in. pies at one time, or an equivalent amount of other work.

One pan bake oven series

A step up the ladder in specialized equipment is the 31-in. wide deck bake oven series, frequently called the one pan oven because each deck accommodates one standard size bake pan. Each deck will accommodate six 10-in. pies at one time. This series is made in a single deck unit 12 in. high inside to be used for baking or roasting as needed. It's also sometimes furnished in a single deck 7-in. high unit for baking and it comes as well in a twin deck unit, each deck being 7 in. high inside but with only one burner and oven heat control for the two decks. The reasoning back of this unit is that it provides more deck space in limited floor area. Any of the three or four basic units can be stacked one on top of the other to provide needed variety and capacity.

Two pan bake oven series

A comparable series but double in capacity is the two pan series. As the name denotes, each deck of this series adequately accommodates two bake pans or 12 10-in. pies at one time.

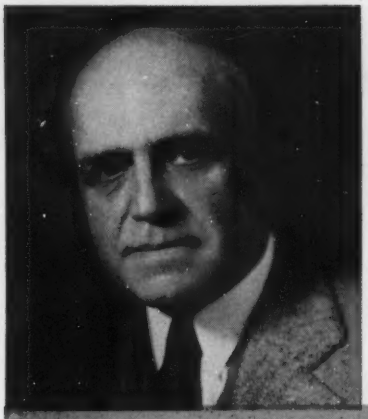
This series is also furnished in single deck units either 7 in. high inside or 12 in. high inside as desired or in a twin 7-in. high deck. Any of these units stack together in assembly. They are frequently employed in stacks of as many as three single 7-in. high units together.

Hence, you can see the variety of equipment available, designed to do a specialized job of roasting and/or baking.

Actually, there are other and larger ovens available, too. One of these is the rotary type oven. Another is the traveling oven. Both are designed for very large volume work and it is suggested that a specialist be consulted if that much capacity is needed.

Automatic 100 percent safety shut off pilots

No modern bake oven should be installed without an automatic 100 percent safety shutoff pilot. The operator is entitled to automatic lighting convenience. He's also entitled to the assurance of trouble-free service provided by the 100 percent safety shutoff feature. Some ovens are still offered for sale with manual lighting because they're a few dollars cheaper, but the American Gas Association will soon require automatic 100 percent safety shutoff to qualify for AGA approval. ■



Mr. Ruthenburg's article is a slight condensation of a talk which he delivered in introducing the latest line of Servel gas refrigerators to gas utility executives — hence the emphasis of the economics of utility gas marketing. The close parallel to L. P. gas distribution will be obvious. It is so rich in basic philosophy and sound management ideas, that we are pleased to be able to offer the article for your consideration.

Louis Ruthenburg

Increasing load and profit

Sell the prospect what he most desires

By **LOUIS RUTHENBURG, Chairman of the Board** • Servel Inc.

WHAT do we have to sell? In asking this question, I refer not only to the Servel organization but also to the utilities, L. P. gas dealers, and all Servel distributors and dealers. After all, our full selling potential will be measured by the degree to which our own organization, the gas companies, our distributors and dealers are welded and coordinated into an effective sales team.

Clear and comprehensive understanding by each of these groups of the viewpoints and objectives of the other groups is essential if the team is to function effectively.

During recent months we have made fine progress toward developing such a coordinated sales team. But in too many areas we find *passive acquiescence* that must be converted into *enthusiastic cooperation.*

The Servel organization cannot be effective unless it operates with the right kind of background and in a healthful climate. By this I mean that the name Servel must, above all else, convey the impression of constant and never-failing intergrity.

A manufacturer can create by persistently striving to reach two simple objectives and by attaining those objectives more effectively than his competitors. The first of these is making products of such quality that they are *completely satisfactory to ultimate users.* That is a basic requirement. Failing to meet that elementary test, the institution is a house without foundation.

The second requirement is that every transaction by every representative of the manufacturer must be fair and equitable *from the viewpoint of the group or individual affected.* That applies to relationships with customers, with suppliers, with the communities in which we operate and with all others with whom any representative of the company may deal.

In saying these things, I am, of course, guilty of being trite and of belaboring the obvious. But much of our trouble is traceable to overlooking such simple and obvious precepts of good business.

The art of successful selling

The salesman who operates with a favorable background and in a healthful climate cannot be success-

ful until he understands the customer's viewpoint and mental processes. Too many salesmen talk when they could more profitably be listening. Here's a worth-while quote from the New York advertising agency, Henry Bach Associates.

> "Knowing all the answers doesn't necessarily make a good salesman. One important fact often overlooked in today's intensive sales training courses is that knowing too many answers may even be a handicap. For successful selling, a salesman must acquire one other art—that of being able to understand his customer's prolbems and to relate them to his product."

Among the best-trained and most successful salesmen I have known are two men who have sold me large life insurance policies. They did it by studying my personal needs in the light of their expert knowledge of life insurance. Discussion of the policies they had to sell came last—*simply as a means to the end of serving my personal needs.* That is constructive, creative salesmanship. Appliance salesmen can profit by studying the techniques of life insurance salesmen.

More than forty years ago I worked for "Boss" Kettering when he sold electric starters to the motor car industry. He didn't sell them that complicated package of coils and armatures, relays, gears and clutches. He sold them *expanded automobile sales*—millions of women drivers—winter usage of motor cars.

Later I worked for John Hertz, who made millions in the taxicab business. Very profitably he shipped and collected money for thousands of Yellow Cabs. But what he sold the taxicab operators of America was *profitable operations.* The cabs were simply means to that end.

Recently we have seen the fastest and most spectacular revolution that ever has taken place in the railway business. Diesel locomotives have replaced steam engines—another Kettering achievement.

Why? Because the Diesel locomotive is the means for more *profitable* railway operation.

Frequently we must remind ourselves that the basic precept of all creative selling is to *sell what the prospect most desires in terms of his own self-interest.*

None of us is in the business of selling refrigerators. We are in the business of selling *more profitable operations* to utilities, distributors and dealers. Dealers and their salesmen are not in the business of selling refrigerators. They are in the business of *selling the benefits and satisfactions of modern refrigeration* to their prospects. Such benefits and satisfactions can be realized to the fullest degree by the ownership of a Servel refrigerator. The refrigerator is simply *the means to the end of accomplishing those benefits and satisfactions in maximum degree over a period of many years.*

Prime profit package for gas distributors

What does our organization have to sell to the distributors? We have a package that has a clearly demonstrated success record extending over a period of 30 years—a record substantiated by the sale of more than 4 million gas refrigerators, of which some three and a half million are said to be still in service. It is estimated that gas refrigerators contribute $15 million to gas company annual profits.

Some years ago I made a careful study of the gas refrigerator in terms of the self-interest of the utility managements. At that time many utilities were actively engaged in the direct sale of Servel refrigerators. Today many of them depend on our distributors and dealers to preserve and expand this asset.

At the time this study was made, the progressive management of a large eastern gas company conscious of the great profit leverage of the gas refrigerator, had for 22 years consistently promoted gas refrigeration service among its residential customers. Almost one-third of this company's residential customers then used gas refrigerators. According to this management, gas refrigeration contributed substantially more than $1 per share to net earnings.

Management of a great Midwestern gas company, recognizing the profit potential of gas refrigeration,

Based on studies by the Committee on Economics, A.G.A.; Chairman, Robert E. Ginna, Vice-President, Rochester (N.Y.) Gas and Electric Corp.

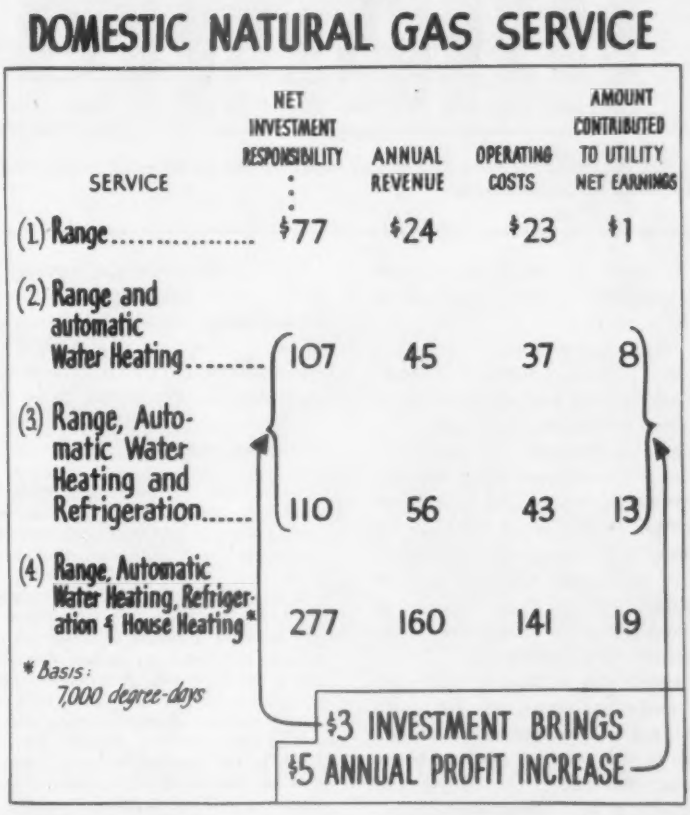


Fig. 1. Addition of gas refrigeration to existing gas appliances can greatly increase net profit per residential customer.

Load and profit... One gas appliance connected to a residential meter may represent a loss

began pushing its promotion in the late '30's. This utility annually installed more than 19 Servel refrigerators per 1000 domestic meters, aimed for early 20 percent gas refrigeration usage.

According to the calculations of this group, when 20 percent of their residential customers use gas refrigeration, the resultant gas send-out will increase this utility's net profit before tax by one million dollars annually.

Studies of profit economics of a number of gas companies indicate that addition of gas refrigeration to existing residential gas appliances can greatly increase net profit per residential customer. *(See Fig. 1.)*

These studies are based upon an important analysis developed by Robert E. Ginna, vice president of the Rochester (N. Y.) Gas & Electric Corp. and then chairman of the committee on economics of the American Gas Association.

A single gas appliance connected to a residential meter may represent a loss, and at best contributes negligibly to the utility profit. Many domestic gas customers use gas only for cooking. To serve such customers, the gas utility must invest almost as much as though the customers used gas for water heating and refrigeration, as well as for cooking. The major investment responsibility and commitment of gas company facilities are assumed when the single appliance is served. Substantial profit for residential uses develops as the second and, more spectacularly, as the third appliance is added.

Source: Servel, Inc.

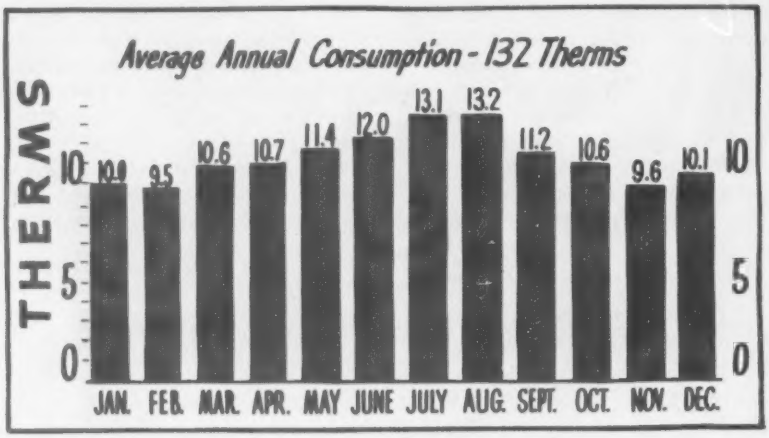


Fig. 2. The gas refrigerator has a constant load throughout the day and night and the load increases during the summer months.

Usually the initial gas-burning appliance is the gas range. Next comes the gas water heater, which converts an actual loss or a negligible profit into a substantial profit. The gas refrigerator usually is the third gas-burning appliance, with its *remarkable profit leverage.*

1. There are only a few household appliances that use gas; many that use electricity. Therefore, gas company management should vigorously promote maximum use of all gas-burning appliances.

2. According to Mr. Ginna's conclusions, the minimum residential user of gas becomes a deficit customer as increased costs edge up against scheduled rates. The Rochester customer who used manufactured gas only for cooking caused a deficit of one dollar per year to utility net earnings. Usually the gas stove is the first appliance purchased.

When the residential customer purchases a second appliance—usually a water heater—the deficit was converted to an annual profit of $9.

When the third gas-burning appliance —the gas refrigerator—was added, utility net earnings were increased to $18 annually—exactly doubling the contribution of the first two appliances.

The figures above quoted applied to manufactured gas service.

Another important aspect of the gas refrigerator is the nature of its demand for gas. Unlike the gas stove, which burns intermittently as meals are prepared, and the gas water heater, which demands gas in proportion to household requirements, the gas refrigerator load is quite constant, 24 hr per day, 365 days per yr. The refrigerator demands more gas during the summer months, when the gas company's volume and profits are lowest. Demand for cooking and water heating usually declines during the summer months. *(See Fig. 2.)*

We are discussing an unusual appliance. Have you ever considered the fact that a Servel gas refrigerator is one of the few mechanisms capable of operating *continuously* for more than 20 yr virtually without attention, adjustment or repair? If your automobile ran 24 hr per day at a speed of 30 miles per hr, in 20 yr it would run 5,256,000 miles!

Increasing demand for gas house heating imposes very serious problems upon gas company managements because the house heating demand is sharply seasonal. Such demand creates badly distorted load factors and may lead to unmanageable peak demands. Progressive gas company managements, therefore, seek diligently to develop compensating summer load like that supplied by gas refrigeration and all-year gas air conditioning.

Nationally, as of 1955, residential gas sales accounted for 33.2 per cent of the total volume as compared with 57.5 percent for industrial gas and 9.3 percent for commercial gas usage. *But one-third of the total volume that went through residential meters accounted for 58.3 percent of total gas company revenue. (See Fig. 3.)*

What package more salable than this could be presented to the utilities?

Progressive utility managements are keenly conscious of the value of the gas refrigerator as a means of increasing profits, as an instrument for preserving the profitable residential load, as a means for impress-

ing the public with the modernity and magic of the best of all available fuels—natural gas.

The last statement is verified by the rapidly increasing number of utilities that are subscribing to the "elements of a sale"—picking up the tab for installation, for service, for floor plan, for financing long-term retail sales.

Special sales support for dealers

What do we have to sell the dealer? To a considerable extent, that question has been answered. With the support and full cooperation of an aggressive, independent distributor, the dealer "has it made" —provided he can organize and direct an effective selling operation. However, if the dealer is to take full advantage of the opportunity thus afforded to make maximum profit at minimum risk, he must go aggressively after business. He cannot depend on local advertising and store traffic to produce signed orders. *He must organize, train and manage a group of producing salesmen.* He must industriously qualify prospects. His salesmen must be carefully trained to tell such qualified prospects convincingly *exactly what the Servel refrigerator will accomplish in terms of the prospects' self-interest.* At all times we must know that *our own success depends upon moving the product from the dealer's floor to the customer's kitchen.*

Sales training at every level is the crying need. By this time it must be obvious that we are gearing our organization to the most effective sales training program that we can develop.

This amazing market

At the outset I said that the manufacturer, as a matter of elementary self-interest, must make products of such quality that they are *completely satisfactory to the ultimate user.* If, as a manufacturer, I have any criticism of the gas refrigerator, it is that it is too damn durable.

Here's a letter from a user whose Servel refrigerator has served her perhaps too faithfully for more than 20 years.

"I think I have a legitimate complaint against your company. Some 20 years ago we bought one of your coal-oil burning refrigerators. In fact, we sold a calf to buy it.

"I'll never forget how proud I was of that box and how my neighbors came over to this thing that you could build a fire under and get ice out of the top.

"After living in the country for 12 years, we moved to town. I thought sure I'd get a new box, but found that for $12 I could get it changed to burn natural gas. Then six years ago we moved back to the country. Ah, I thought, now I'll get my new refrigerator. However, again I found that I could change to propane by replacing only the small jet.

"My only expense on the refrigerator in all these years has been a pair of hinges and two door gaskets.

"I never failed to read the beautiful advertisements in the magazines and I have longed for one of your new Ice-Maker refrigerators. Now my husband says I cannot have one until this one breaks down. So here is my problem: is there anything I can do to this heirloom to make it quit freezing so that my husband will get me one of your new ones?"

To the alert merchant and salesman, this letter will bring many interesting suggestions. The writer was quite conscious of costs and values. She remembers that, more than 20 years ago, a calf was sold in order that she and her family could enjoy the benefits and satisfaction of modern refrigeration. The price of calves in 1935 was $8.25 per hundredweight. In January, 1956, the price of calves was $24 per hundredweight.

During the same 20-year period, the basic price of greatly improved gas refrigerators has increased only 16 percent. Today a customer can swap calves for a lot more refrigerator than he could in 1935. The same remark applies to other products, to

Source: American Gas Association

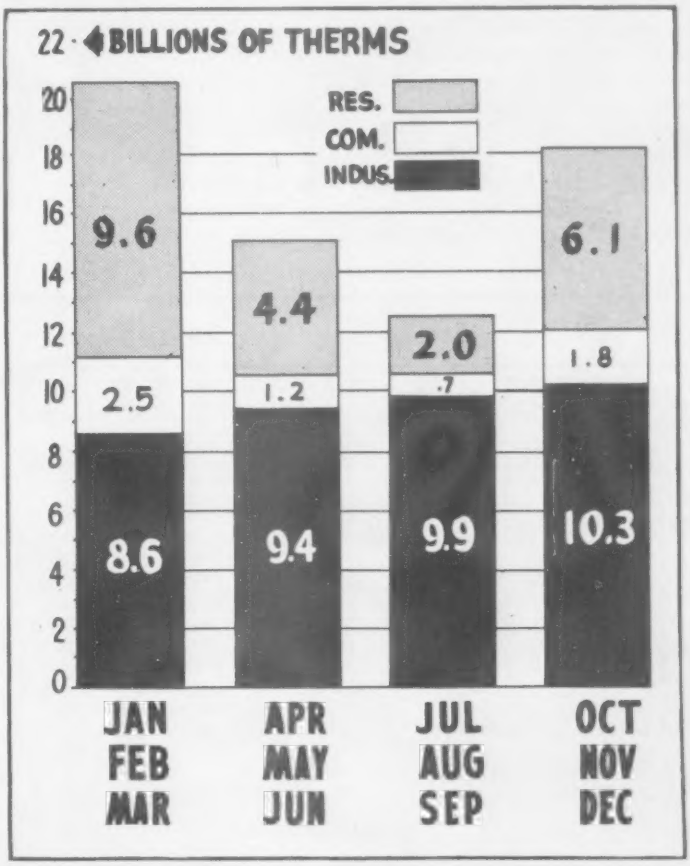


Fig. 3. During 1955, one-third of the total gas volume that went through residential meters accounted for 58.3 percent of total gas company revenues.

wages, to salaries and to almost all other media of exchange. *(See Fig. 4).*

Then it will be remembered that there are 3½ million users of Servel refrigerators. Many of them undoubtedly are just as interested in a new Automatic Ice-Server Servel as is this customer. Here, then, are literally millions of qualified, presold prospects.

Finally, we wonder why an alert salesman has not called upon this eager, presold user and, long since, closed a sale.

You gas men know from your daily experience better than most people what amazing changes have taken place in the economy of the United States. However, changes take place gradually, and we sometimes lose sight of the longer perspective.

Let's take a look at what has happened in the motor car market. Many of us remember when half the cars sold in an annual market of four million units were Model T Fords. At one time a Ford Model T roadster without electric starter and demountable rims was priced in Detroit at $265. The engine developed 16 hp. On a smooth road the Model T could attain a speed of 35 miles per hr.

Now Fords, Chevrolets and Plymouths are retailed at $2000-plus per copy. All of them have engines capable of developing approximately 200 hp. In fact, the most recently announced Plymouth model comes with a 240-hp engine. All of these cars are capable of speeds far above the safe driving limit. Last year 7,400,000 automobiles were sold. Relatively, the longest waiting list was not for Fords, Chevrolets or Plymouths. Relative back orders were highest for Cadillacs—top of the line.

If people wanted small, economical, low-cost cars, they could buy them. The German Volkswagen, capable of running 65 m an hr and of delivering 35 m to a gal. of fuel, can be bought in this country for about $1600. Last year, in a total market of almost 7½ millions cars, total sales of this excellent little German car were probably less than 30,000 units.

In discussing the 1956 motor car market in the Conference Board Economic Forum last month, George P. Hitchings, manager, economic analysis department, Ford Motor Co., testified that average factory automobile prices have been increased; that there has been further growth in the use of automatic transmission and power accessories and in the demand for more deluxe versions of each car. He said, "The percentage installation of power accessories is moving up each year. Even though 23 percent of the new cars in 1955 are equipped with power steering, for example, the rate might be 28 percent next year."

People are buying "the top of the line" almost regardless of the cost. Disposable income is fantastically high. When the Ford Model T accounted for half the motor car sales, factory workers were earning about 25 cents per hr until Henry Ford voluntarily increased wages to five dollars a day.

Since then, real wages have multiplied. To increased wages there have been added many fringe benefits, unemployment compensation and social security payments. The shorter work week also provides greater incentive for spending.

Our own experience with Servel refrigerators verifies the fact that people want the best and will pay the price. When they were offered the choice of a refrigerator with or without the automatic ice-server, more than two-thirds of them bought the ice-maker and paid the additional price.

We are living in an amazing economy that will pay rich rewards for creative salesmanship.

In conclusion, may I quote something that recently appeared in *Manage*, the little magazine published by The National Association of Foremen?

"What Is a Customer?

". . . The Most Important Person in Our Company's Business

"A customer is not dependent on us—we are dependent on him.

"A customer is not an interruption of our work—he is the purpose of it.

"A customer does us a favor when he calls—we are not doing him a favor by serving him.

"A customer is a part of our business—not an outsider.

"A customer is not a cold statistic—he is a flesh and blood human being with feelings and emotions like our own.

"A customer is not someone to argue or match wits with.

"A customer is a person who brings us his wants—it is our job to fill those wants.

"A customer is deserving of the most courteous and attentive treatment we can give him.

"A customer is the fellow who makes it possible to pay your salary whether you are a truck driver, plant employee, office employee, salesman or manager.

"A customer is the lifeblood of this business." ■

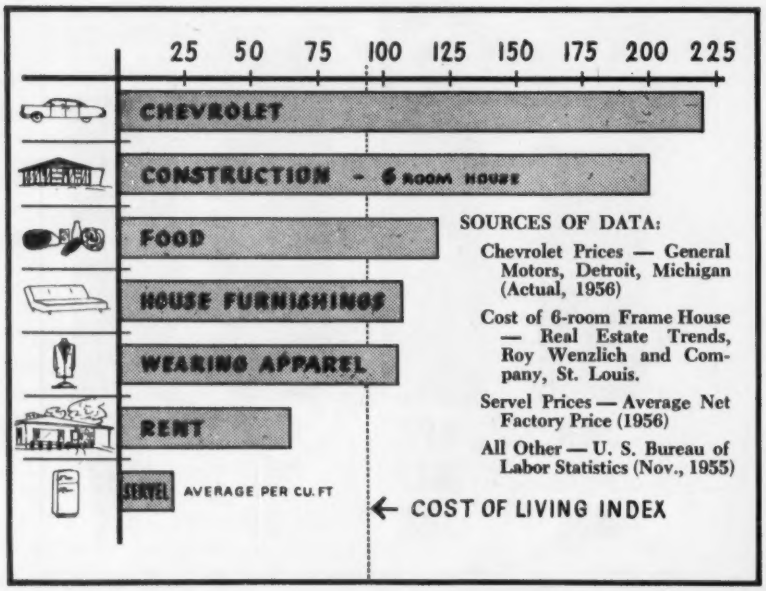

25 50 75 100 125 150 175 200 225
CHEVROLET
CONSTRUCTION - 6 ROOM HOUSE
FOOD
HOUSE FURNISHINGS
WEARING APPAREL
RENT
SERVEL AVERAGE PER CU. FT
← COST OF LIVING INDEX
SOURCES OF DATA:
Chevrolet Prices — General Motors, Detroit, Michigan (Actual, 1956)
Cost of 6-room Frame House — Real Estate Trends, Roy Wenzlich and Company, St. Louis.
Servel Prices — Average Net Factory Price (1956)
All Other — U. S. Bureau of Labor Statistics (Nov., 1955)

Fig. 4. While the price of almost all products and services has shot way up during the past 20 years, the price of a greatly-improved gas refrigerator has increased only 16 percent.

New sources of gas and oil must continually be discovered if we are to keep pace with the ever-increasing demand for the many hydrocarbon products—including L. P. gas. Not content with land exploration alone, geologists are now looking under the sea not only for underwater oil fields but also for clues on how "stratigraphic traps," oil fields formed millions of years ago when water covered the present land masses, can be located.

Skin diving for today's oil...

by looking at tomorrow

GEOLOGISTS have taken to skin diving, and it is not just for fun. They believe that by studying the undersea processes now under way which will result in the formation of oil structures millions of years in the future, they may be better enabled to locate present deposits of oil and gas under the ocean floors of the past.

Because supplies of gas, like supplies of oil, are being used up, the search for new sources is a never-ending task. But, as exploration and discovery continues, new fields become harder and harder to find. As a partial answer to this ever-increasing problem, man is now turning to the sea.

The ocean floor is believed to hold the answers to locating two types of

Thirty-five feet underwater in the Gulf of Mexico, this skin diving geologist prepares to pick up a sand dollar which might tell him and his colleagues where to look on land for new sources of liquefied petroleum gas.

By studying these specimens, deposited on the ocean floor during comparative recent times, geologists hope to learn more about similar specimens deposited in ancient times which now form subterranean closures for gas and oil.

gas and oil fields: the well known structural traps and the not-so-well known stratigraphic traps. In order to come up with the answers, geologists are donning swim fins and aqualungs and searching, in some cases, 65 ft under water and 45 miles offshore.

Most of the oil fields so far discovered in the world are what geologists call "structural traps." These are closures beneath the earth's surface formed by underground folding and fracturing of rock layers. But some of the biggest oil finds—the great East Texas field, for example—have been in an entirely different type of trap. These have consisted of sandstone bars or limestone reefs which were formed in ancient seas by the gradual deposit of sediments over the centuries. They are called "stratigraphic traps."

Stratigraphic traps, actually porous rocks surrounded by non-porous rocks, are extremely hard to find by conventional exploration methods. Many of the big oil fields of this type have been found by accident, usually in the course of drilling for structural traps.

One of the prime examples of discovery of stratigraphic traps by accident is the Pembina field in Alberta, which turned out to be the biggest oil reservoir discovered on the North American continent in 1953.

In order to develop techniques for predicting the presence and location of limestone reefs and sandstone bars in ancient formations, the Magnolia Petroleum Co., Dallas, Texas, affiliate of Socony Mobile Oil Co. Inc., has assigned a team of four geologists and two geological technicians from the staff of its field research laboratories to comb the ocean floor in search of clues to sedimentary deposits. The study is taking place in the Gulf of Mexico.

The scientists are actually studying the sediments deposited on the ocean bottom in comparatively recent geological times in order to get clues as to how and where oil bearing sediments were deposited in ancient times.

Although it resembles a game of chance, this is actually an underwater conference of four geologists plotting their next move.

Photographs taken by this camera in a watertight case will aid in the unending search for new sources of gas and oil.

The aqualung diving techniques used to get to the ocean floor and remain down were developed for military use during World War II. Skin diving, using aqualungs, has reached great popularity as a sport, but the gas and oil industry is the first to make use of it for an industrial purpose.

Geologists believe that minute differences in the composition of the ancient sediments and studies of the environments in which they were formed will provide answers to stratigraphic trap locations. They are seeking to test this hypothesis by studying recent sediments and present environments.

To help identify these environments, the scientists collect samples of starfish, snails, shellfish, and other marine animal and plant life found on and under the ocean floor.

Diving, dredging and coring are used to get the samples required for analysis.

By diving, the scientists are able to view marine life at first hand and use dandelion diggers to loosen specimens from the sand and coral bottom. These are brought to the surface in gunnysacks. Photographs are taken with a camera in a watertight case.

The dredge used is made of ordinary fish netting mounted in a steel mouth with teeth along the underside. More than 300 lb of sediments and marine life are brought up by the dredge each time it is lowered into the water and towed by the boat over selected points plotted on a master chart of the exploration area. Samples are stored in steel cans, labeled by location, for laboratory analysis.

While dredging brings up specimens from the ocean floor, the geologists have to use a coring barrel to get older specimens located several feet below the surface. The coring barrel is an 8-ft steel pipe enclosing a plastic liner. It is lowered over the side, weighted on top, and plunged into the bottom. When the pipe is brought up, the plastic tube, containing specimens, is removed and stored.

Data from the survey, including the underwater currents which dump sediments into the gulf, are plotted on a master chart.

Meanwhile, another group of divers, wearing neoprene suits, are also plunging into the sea for oil. These seven men, however, are exploring the Pacific Ocean for underwater oil locations of the conventional structural type.

These men, also geologists, are an independent group making up the Geological Diving Consultants of San Diego. They dive under contract to oil companies desiring their services.

The California men are armed with prospector's pickhammers with which they chip off samples of rock formations. The locations where these samples are taken are plotted for relocation should the sample indicate evidence of folding of the earth's crust. Earth faults, also valuable in locating oil, are likewise plotted by the divers.

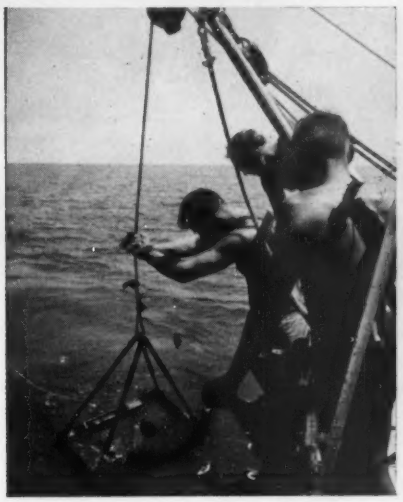
Gas and oil seeps are also located by the underwater scientists. These are evidence of underwater hydrocarbon pools.

The aqualungs, attached to the divers' backs, can sustain a man under water for about 30 minutes. They consist chiefly of two tanks capable of storing 140 cu ft of air at atmospheric pressure. Air is pumped in at 2100 psi, providing the half-hour supply.

Divers report that fish are friendly creatures. Many varieties swim up and nudge their face masks.

Whether the fish are friendly or not, the divers continue their explorations. Their work is predicted to result in discovery of new gas and oil fields, from which will flow the many hydrocarbon products including L. P. gas.

Thus, two groups of men who have taken to skin diving in the Gulf of Mexico and in the Pacific Ocean will have far-reaching effects on the amounts of butane and propane available for L. P. distributors, dealers and users. ■



When this dredge comes back up after being towed by the boat, it will be loaded with more than 300 lb of sediment and specimens.

Locations from which specimens were taken are carefully noted with a grease pencil on a plastic slate strapped to the skin diver's knee.

These specimens brought up from 65 ft under the ocean's surface will be studied for clues on locating stratigraphic gas and oil traps.

Non-agricultural markets for flaming equipment

One of the outstanding characteristics of the people in the L. P. gas industry is that their thinking is not "cast in a mold." Given a problem, they come up with an answer. Given a new piece of equipment, they adapt it to uses not even dreamed of by its originator. Problems, answers, adaptations, new uses—all of these are the earmarks of a vigorous and growing industry.

Agricultural flaming equipment was designed to meet specific problems in agriculture. Almost immediately, however, the various pieces of equipment commenced to show up in other jobs that required large amounts of controlled heat, in a wide range of uses in industry, construction and forestry. It all adds up to opportunity and to fuel consumption on an amazing scale.

We are pleased to report herewith some of these additional uses for torches and burning equipment, as a supplement to the article in our March, 1956, issue which covered the main agricultural uses of propane flaming equipment.

Softening asphalt is one of many non-agricultural uses for flaming equipment. The equipment above was adapted for the City of Santa Monica, Calif., by Imperial Gas Co. of that city.

EXTENSIVE use is now being made of mobile burning equipment to burn off the weed growth and brush along highway rights-of-way In the states where grass dries out late in the season and forms a fire hazard, this is being done as a means of protection against fires originating from dropped cigarettes and burning tobacco of other forms.

The procedure is to make a kill burn before the weeds and grass dry out for the summer, returning in a few days to ignite and burn the grass that was killed from the first operation. B ythis means it is possible to clear a strip 10 to 12 ft wide on both sides of the roadway with minimum labor and expense, and thereby provide a firebreak to prevent ignition of the countryside after the grass and weeds dry out.

This procedure is varied to meet local conditions in other areas where dry grass does not constitute the hazard, but extensive roadside growth is still undesirable.

For years various state highway departments and other maintnance organizations have been looking for an effective and economical means of removing "oil slicks" from asphalt roads. This slick is the result of heavy traffic in hot weather. This results in bringing the oil to the top of the aggregate, leaving the road surface with a slick glaze that becomes a serious hazard in wet or frosty weather. These slick spots are particularly likely to appear on curves and grades.

The Oregon state highway department has developed a spacial machine employing agricultural - type burners to cover an area one lane of traffic wide. They operate the unit

Markets described on these pages include...

- Street and highway uses
- Softening asphalt
- Patching asphalt paving
- Heating smoothing irons
- Softening oiled aggregate
- Removing ice from streets
- New highway construction
- Thawing manhole covers
- Land-clearing operations
- Burning slash and brush
- Burning juniper bushes
- Uses in industrial plants
- Roofing
- Aging wood
- Preheating for welding
- Burning duck pond weeds

over the roadway at a rather slow pace applying enough heat to burn the lighter oils out of the surface and consume them. This leaves the top ½ in. of asphalt soft and pliable. A thin layer of crushed rock is then spread over the heated area and rolled to press the rock about two-thirds into the surface of the asphalt.

At the time this work was first done it was felt that the job would need to be repeated each fall, but an inspection at the end of the first year showed that these curves that had been treated were still in excellent condition and that the traction was still satisfactory, so it was decided that every two years would be frequent enough to keep the road beds properly treated. The same procedure is now being used on approaches to intersections on the Oregon state highways and there is indication that some of the local cities will also take up the practice.

The City of Santa Monica, Calif., is using a similar machine for spot treatment of the city streets with very good results. Their particular application is the smoothing out of corrugations which form on slopes where cars slow down for intersections. Their treating unit is shrouded to secure an oven effect over the area to be treated. After the asphalt aggregate has been softened to a reasonable depth, they use a road roller to smooth the corrugations out after which dry crushed rock is pressed into the surface to create a new traction grip.

Patching asphalt pavement

Prolonged wet weather will generally cause asphalt pavement to develop holes of various sizes. Securing a good bond between the original pavement and the patching materials presents something of a problem and it has been found that the edges go together very much better if the old pavement is first softened before the patching material is put in. This can be done very quickly with a single burner hand torch.

Asphalt smoothing irons

Numerous contractors are using small agricultural type torches to heat the smoothing irons used for laying patches in pavement and for finishing around the edges of blacktop surfacing for parking lots, service stations, industrial yards, and alleys. As this is intermittent use seldom requiring prolonged heating, and mobility is an important factor of convenience, the fuel supply is ordinarily a standard 20-lb cylinder such as is used in house trailers and under plumber's pots. The users generally keep a supply of surplus filled cylinders, returning them to the LPG dealer's plant for refilling. Each laying crew will generally require several cylinders per week.

Softening oiled aggregate

A great many of the improved country roads are surfaced by working road oil into the native materials. This can be accomplished quite readily during warm weather but in the northern and mountain states it is frequently necessary to carry on this kind of road construction early and late in the season when the atmospheric temperature is so low that it is difficult to get good mixture of the oil and the road material. This sometimes causes work stoppages of several days at a time.

A typical case was reported in Idaho by Wilton Jackson of Northwest Fabricators. The oiled aggregate had been worked up into windrows down the center of the right-of-way during a period of warm days. This was followed by a cold spell and the material was too heavy to work. A number of burners was mounted on the tool bar of a tractor and passed over the windrow of aggregate leaving the heat on long enough to soften it rather thoroughly. The material could then be worked and spread and the result was that this highway district has adopted the use of propane flamers as a standard practice in this type of road work during the cooler seasons.

Removing ice on street and highway surfaces

Burning equipment such as mentioned in the last paragraph has been used very successfully to melt patches of thin ice off the surface of curves and grades. Working down the slope at a fairly slow pace, the heat from the burners not only melts the ice and allows it to flow off as water but also dries the surface, thus

An agricultural-type torch is used by asphalt paving contractors to heat smoothing irons (left) for finishing around posts and edges (right) where a roller cannot be used. The iron is used intermittently and prolonged heating is seldom required.

eliminating the hazard of refreezing at low temperature.

Intersections in city streets which are so located that they develop ice coating can also be made safe in this same manner.

New highway construction

Disposing of the timber and brush cleared from new rights-of-way sometimes presents quite a serious problem. Work will frequently progress so fast that the piles of rubbish do not have time to dry out and become readily combustible, so the customary procedure is to spray with gasoline or diesel oil and ignite the brush, trusting that it will burn because of the extra heat supplied with the petroleum fuel. The use of gasoline for this purpose is somewhat hazardous because of the flash which occurs upon ignition.

It has been found that these fires can be kindled with a large flame thrower-type hand torch operating on propane and that the expense for fuel is thereby greatly reduced and the manhours required to burn the rubbish are also greatly diminished.

Frozen manhole covers

City street maintenance crews are using large numbers of small propane hand torches fed from cylinders for thawing out frozen manhole covers.

Forestry and land-clearing operations

Extensive use of propane torches is made in both fire fighting and fire prevention. Many western fire fighting crews are equipped with backpack outfits or similar light weight gear which greatly facilitate the starting of backfires to clear areas ahead of traveling forest fires and provide a means of control. With a pilot-equipped torch and a quick-acting valve controlling the main flame, the backfire can be started almost instantaneously, with minimum use of fuel.

These same outfits are used for preventive preparations in the clearing of fire control strips. In this operation the strips are cleared and the foliage and branches piled in small piles which are ignited with a single puff from the flame thrower.

Burning slash and brush

Approved practices in lumbering now require that the tops and branches of trees, which are called "slash" in the lumber industry, shall be piled and burned to get rid of them as a potential fire hazard.

When wooded or brushed-over land is cleared for agricultural purposes, the same problem of piling and burning the brush presents itself. Ben Brunner of Manchester Welding & Fabricating Co. reports one of these land clearing operations in which the farmer was using a hand torch with a 172-gal. trailer tank unit for igniting the piles of brush. In this operation one man was patrolling the area with a tractor drawing the propane tank and stopping as needed to ignite brush piles or restart fires that had died out. This man stated that he had burned as much brush single handed during the day as 10 men had previously been able to do starting and restarting the fires with pitchforks and gasoline. The 8- to 10-ft flame produced by a big hand torch will really start a bonfire in this kind of work.

L. P. gas torches are put to use on western cattle ranges for burning off large juniper bushes.

Juniper brush on cattle ranges

Last year we reported experimental work in burning large juniper bushes out of western cattle ranges. Girdling the trunks with enough flame application to kill the cambium layer will kill the juniper tree but it is believed that this requires more time and does a less efficient job than the practice reported last year of passing through the area killing a spot of foliage in each juniper tree during the first pass and returning a few days later to start a fire in the killed spot which spreads throughout the crown of the tree. Both methods have their advantages and disadvantages and it appears that reburning must sometimes be done to complete the kill when using either method. Young juniper seedlings are particularly susceptible to flame treatment and the problem of preventing regrowth is relatively simple, because of the ease with which the young plants can be killed with flame.

Industrial uses

Almost every large industrial operation which has a large yard is a prospect for a propane torch to control weeds and to assist in various maintenance operations around the premises. Storage space for machinery, pipe, structural steel, etc., is frequently provided without benefit of pavement. Weed growth in these areas cannot be controlled in any other way as easily as with torches. If all or part of the yard is paved with blacktop material there is frequent need to apply patches or to do other surface maintenance work in which it is advantageous to soften the asphalt as in highway and street maintenance. Driveways sometimes become hazardous on account of sleet or icing conditions which can most advantageously be corrected by the use of propane heat. Frozen water pipes in exposed locations can be most advantageously thawed out with the propane torch. If the plant is provided with a railway spur having switches, it is necessary for the plant management to keep these thawed out so they will be usable.

Roofing

Roofers are frequently called upon to apply patches during periods when

The Super 8 burner is shown in use burning off weeds around an industrial plant (left) and along a parkway (right). Almost every large industrial plant with a yard is a prospect for a propane torch. The torch is also useful for numerous maintenance jobs.

the existing roofing is damp. It is necessary to dry out the areas which are to receive the patches and this can be done most economically and advantageously by the brief use of propane heat. A torch is also very useful in maintaining temperature of roofing tar pumped up from the heaters on the ground through pipes in laying extensive areas of roofing. The flame must be kept away from the fresh tar, but it can be very useful in maintaining temperature in the pipeline during exceptionally cold weather.

Aging wood

A novel but rather extensive use of propane torches was made during the construction of Disneyland, a multi-million dollar amusement enterprise in southern California. It was considered desirable to take away the new appearance of many of the woaden structures. This was accomplished by slight scorching of the surface of the boards, planks, plywood panels and other units used in the construction by means of a propane torch. The scorched surfaces were then gone over with a power-driven wire brush which grooved out the soft grain of the wood and polished up the surfaces of the hard grains. The final appearance of the prepared wood surface was approximately the same as would have been obtained had the wood been exposed to the elements from 10 to 15 years. It is believed that similar treatment of wood for rustic type construction can be advantageously employed in many other places.

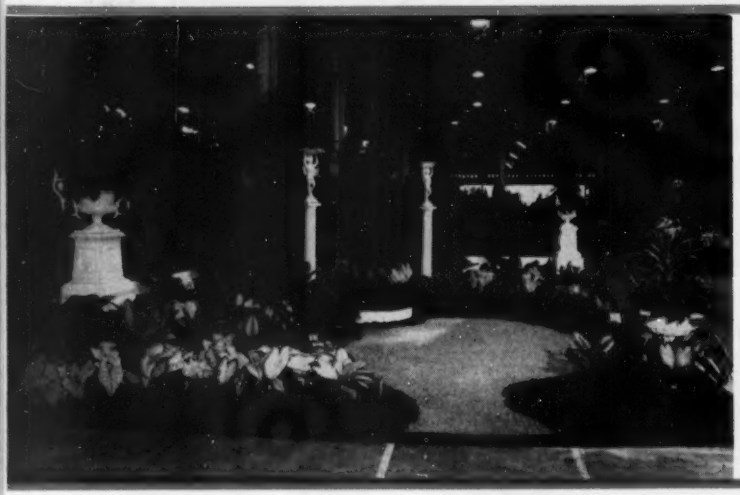
Preheating for welding

In preparing large sections of cast iron and steel for welding either by the electrical process or with torches, better results are obtained if the structure is preheated in preparation for the welding. This prevents the development of strains in the welded joints which might otherwise result in cracking of the welds. The scope of this type of work is practically unlimited and opportunities for use of agricultural-type propane torches in welding exist in almost every community. The torches are particularly useful in preparing cast iron for welding as in the repair of engines, cylinder blocks and similar uses. ■

Duck pond flaming helps hunters locate ducks

The Lodi Gun Club had a weed problem of several years standing in its 40 acre duck pond near Hood, Calif. Several attempts at removal had done no good. Members continued to knock dead ducks into big patches of emergent weeds, losing ducks or wasting good shooting time. Gray's Butane Ltd. rigged up this seagoing weed burner so the club employees could clean out the trouble. Standard techniques worked — a first burn to kill the tops, second burn to consume everything above water. Now it's "no weeds, no alibis." Members' problem is still the same—to hit the ducks.

LPG lends a hand in drying Caladium bulbs



Caladiums—those lovely plants with the brightly colored elephant ear leaves—are much in demand by florists all over the country. In warmer climates, many hobbyists grow them in great beds in shady locations. Raising the bulbs is big business. Curing them by means of controlled heat is another instance where LPG improves on nature.

By SELMA FINNEY

THE Lake Huntley Bulb Farm, Lake Placid, Fla., owned and operated by L. L. Holmes is the largest in the world for the raising and processing of caladium bulbs. Over a million and a half bulbs are raised here every year and in 1957 that number will be increased by an additional million.

The caladium bulb is a tropical plant and very sensitive to cool temperatures or sudden changes in temperature. Mr. Holmes has developed his operation to include drying, storing, and shipping of the bulbs, so that he can control as many factors as possible in delivering bulbs that will give good performance to the purchaser. Growing conditions are important but damage due to chilling when the bulb is first lifted from the field and during the process of curing is the most common cause for disappointment in bulb performance.

The finest quality bulb is the one that has been allowed to remain in the field in the fall until it has become completely dormant. It must then be dried to prevent damage due to retained moisture.

To perfect a curing method most nearly simulating nature's process, grower Holmes took his problem to Coker Gas & Electric at Wauchula, Fla. Together they worked out a winter drying program and the necessary equipment.

The ideal, natural way to cure

caladium bulbs is to permit them to dry in the open air exposed to full light. This is hazardous during the winter months as the temperature will go down to near freezing and rain or moisture will damage the bulb. The problem is to approximate the natural drying method with an indoor set-up where the temperature can be controlled and the air cirulated freely around the bulbs.

Three sheds, 40 by 80 ft, have been built. The sides can be opened in sections to afford natural circulation of air when the weather permits. Tiers extending from the ground to the ceiling and in rows from end to end hold the trays of bulbs. Fifteen bushels of bulbs can be dried at one time in each shed.

At one end of each shed a Reznor circulating heater was installed. The heater burns L. P. gas and is equipped with an automatic control connected with the thermostat so that an even 80° temperature can be maintained continuously 24 hours a day during the 10 days it takes the bulbs to completely cure.

A ½ hp forced draft fan was installed with the heater so that the warm air can circulate throughout the shed. This fan works automatically with the thermostatic control or can be operated separately when the heater is not needed.

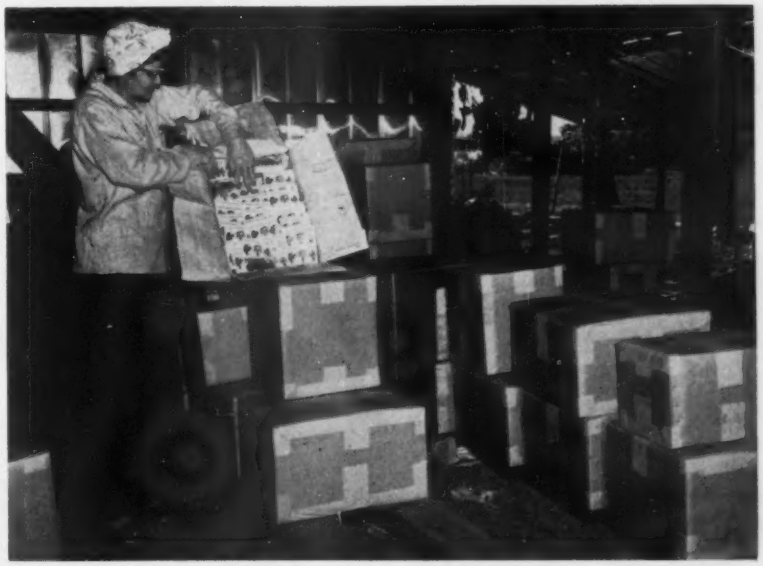
Based on bulb loss and damage in previous years, the dollar savings in the *first month* of operation with LPG paid for the entire installation of the three heaters, the fans and a full year's supply of fuel. The installation was made in November, 1954. With 1500 bushels of bulbs curing at a time in each shed and each individual bulb worth on an average of eight cents to the operator, the dollar savings with each cold snap or rain is substantial. There has been no damage to nor loss of bulbs due to their sensitivity to cool temperatures in the two years the LPG set-up has been in use at the Lake Huntley Bulb Farm.

Mr. Holmes is planning to build two more sheds to cure the additional million bulbs he is planting now for next year's market. Since LPG has taken the worry and sleepless nights out of his bulb business, and has substantially increased his yearly profits, Mr. Holmes says that these new sheds will also be heated with L. P. gas. ■

L. L. Holmes (above), owner of the world's largest Caladium bulb farm, examines a bulb from one of the trays in one of three drying sheds. Heating the sheds by L. P. gas has taken the worry out of the bulb business for Mr. Holmes.

An automatic switch controlled by a thermostat starts the L. P. gas heater (right) and the blower which distributes the heat through the shed.

Cellophane-wrapped Caladium bulbs are being prepared for shipping by Mrs. D. C. Kelley (below). Bulbs go all over the world.



Flame weeding for cotton

A FULL OFFICIAL REPORT

Flame cultivation for cotton has been under study by the U. S. Department of Agriculture and the Department of Agricultural Engineering, University of California, for the past eight years. Several important conclusions resulting from the study released by H. S. Stanton of the USDA and J. R. Tavernetti of the university are hereby presented as an addition to the cotton section of the agricultural flaming roundup presented by Butane-Propane News **in the March 1956 issue.**

FLAME cultivation with L. P. gas can be used safely and effectively for control of annual weeds and grasses in the growing of cotton and a saving of from $5 to $50 per acre for weed control costs alone could result. In addition, saving will accrue from improved grades of cotton where grassy bale classifications would otherwise cause a reduced price for lint.

Tests show that the cotton should be 8-10 in. tall before the first flaming unless the operator is experienced and has precise equipment. If proper experience and equipment are on hand, flaming of 4 in. cotton is possible for earlier weed control.

Early control is especially desirable since flame cultivation should be used to control small weeds and grasses instead of waiting until they are the size to require hoeing.

Continued flame cultivation—year after year—will usually rid a field of annual weeds and grasses, research has shown, and future infestations from other sources are insured against by yearly flaming.

All of the above conclusions, tests and research studies are the results of a cooperative project conducted by the U. S. Department of Agriculture, Department of Agricultural Engineering, University of California;

Control of annual weeds and grasses which threaten cotton can be accomplished in a safe and effective manner for approximately $5 per acre by use of L. P. gas flaming equipment such as this.

Cotton flaming... Weed and grass control were one of the last barriers to mechanization

and the Cotton Planting Seed Distributors. The research into flame cultivation has been a part of the cotton mechanization project since 1948.

Objectives of the project included perfection of a method for control of weeds which spring up on the drill row around the cotton plants without the need for manual hoeing. From 10-20 man hours per acre are usually required for a hoeing or chopping operation.

Weed control specialists at the U. S. Cotton Field Station, Shafter, Calif., found that most California cotton growers spend from $10 to $50 or more per acre per year for weed control measures.

Another problem encountered with hand hoeing is the so-called grassy bale classification for cotton. During the normal "lay-by" period after the last hoeing, rapid growing grasses and weeds spring up again. When the mechanical pickers move over the plants, they pick up grass together with the lint. This grass is baled in with the cotton and the bale must be classified for lower prices since it must be re-cleaned.

Since mechanical cultivation cannot be used for weeding the drill rows in which the plants are located, weed and grass control had remained one of the last barriers to complete mechanization of cotton production. Then came L. P. gas flame cultivation.

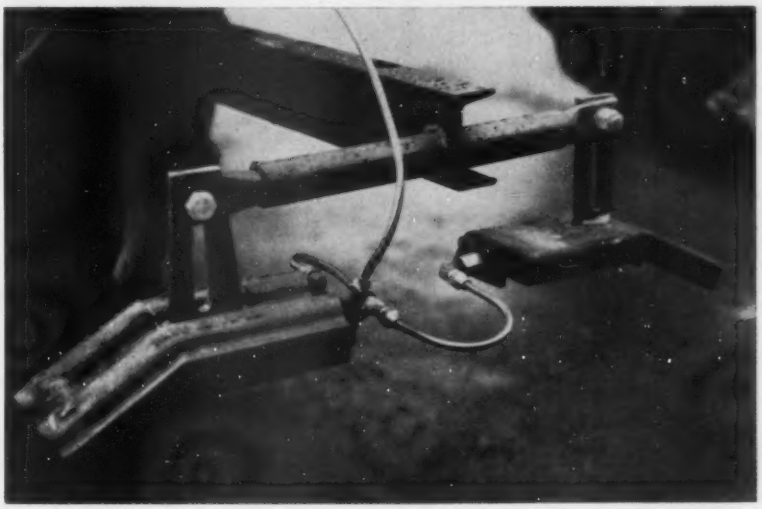
By applying a carefully controlled fire to the drill row of growing plants at a rate that does not injure the growing crop, the weeds and grasses are destroyed. The cost of flame cultivation is approximately $5 per acre per season depending on the number of operations. While one small hoeing may be needed prior to the first flaming, after flame cultivation has been used for more than one year on the same area, hoeing is reduced to zero to five man hours per acre.

The cooperative research project found that flame cultivation when properly used, has a greater range of possibilities for annual weed and grass control in irrigated cotton, than any other known methods. Flaming may also assist in control of perennial weeds and grasses by destroying seedlings or by injuring some established weeds so that other control methods will be more effective.

Proper burners, proper fuel pressure to the burners and proper speed of the flaming vehicle are all important in obtaining the best results.

Three major types of burners have been used during the decade in which flame cultivation has been practiced. These are the round burner, set at a 15° angle to the ground; the flat burner, set at a 45° angle to the ground; and the most recent development, the Arkansas burner, with a deflector set at a 30° angle to the ground. Since the combustion chamber on the Arkansas burner is actually set horizontally, adjustment is simple.

The Arkansas burner is set with the tip of the deflector 4 in. above the drill row and 6 in. horizontally away from the plants. The two burners are staggered in the row with 6-10 in. between them, so the flames from each burner will not "bounce" together. A spraying systems fan nozzle tip is used as the orifice. The 2-2502 tip size is recommended for general use. Speeds of from 2 to 4 mph may be used safely. Extreme caution should be used at the lower speeds, however, because of the possibility of damage to the cotton. Normally, 30 lb. pressure at 3 mph would



Newest development in cotton flaming is the Arkansas burner, with deflectors set at a 30° angle to the ground. The left burner vaporizes the fuel and feeds vapor to the right burner.

TABLE 1. FLAME INTENSITY TRIALS

		Yield, Bales/Acre			
	Psi	1952	1953	1954	Ave.
Check	0	2.13	3.08	2.68	2.63
Flamed	20	2.21	3.07	2.61	2.63
Flamed	30	2.19	3.10	2.61	2.63
Flamed	40	2.03	3.12	2.67	2.61
Flamed	50	2.11	3.13	2.65	2.63

TABLE 2. FLAME INTENSITY TRIALS — 1955

	Approx. Gal. Fuel/Acre Both Locations				Lint Value Cents/Lb at Delano Clay Loam Soil Location			
	2 mph	3 mph	3½ mph	4 mph				
Check	0	0	0	0	34.83	34.83	34.96	35.40
2-2502 tip[1]	5.6	3.7	3.2	2.8	35.65	36.08	36.58	35.57
2-2503 tip[1]	8.3*	5.6	4.8	4.2	35.65	36.40	36.21	36.27
4008 tip[1]	11.1*	7.4*	6.3*	5.6	36.27	36.46	35.52	35.58

[1] Spraying systems fan nozzles used as the burner orifice.
* Caused significant yield reduction.

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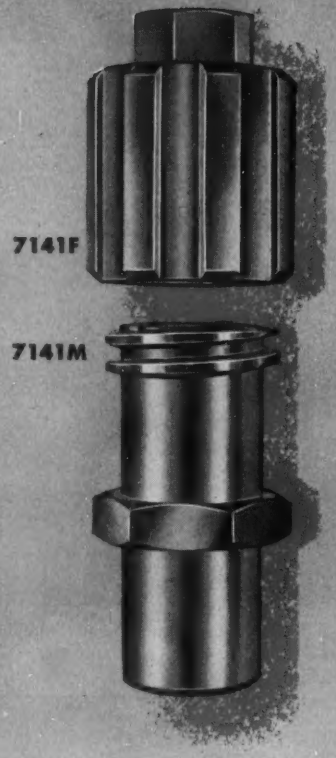

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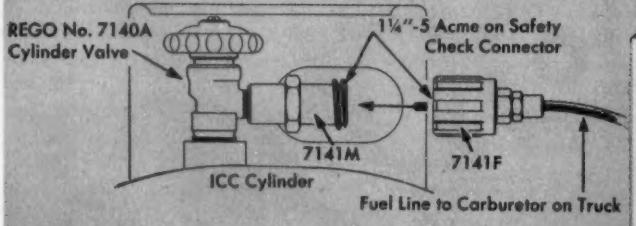

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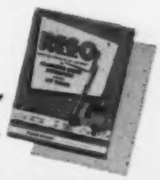

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be recommended for the first flaming and on subsequent flamings, the pressure may be increased gradually to 50 or 60 lb.

It should be expected that the lower leaves on the cotton plants will be burned but this did not prove harmful during the experimentation.

One handicap that had been experienced with flame cultivation equipment in California was the code established by the Safety Engineers Board. The requirement was that there must be 10 ft between the tank and burners. As of this year, the code has been changed to compare with that of other states, and it is now possible to have a rear tank mounting and rear burner mountings. This will greatly facilitate construction mounting and driver comfort, as the front mounted burners were uncomfortable to the operator on account of driving into instead of away from the heat.

The results of four tests have been released by the joint project group. These are the basis for their conclusions on the desirability of L. P. gas flaming and for their recommendations on fuel pressure, cost, time of flaming and vehicle speed.

Three years of flame intensity trials are shown in *Table 1*. These trials were conducted on Hesperia fine sandy loam soil near Shafter where nutgrass was a problem. The cotton was 10 to 12 in. tall before the first flaming began, and four to five flamings were applied each season. The speed during each test was 3.1 mph.

No significant differences were noted in yield data on any treatment during any year. The rate of L. P. gas used varied from 2.15 to 4.21 gal. per acre per application. The results shown in this table indicate that flame pressures may be regulated according to the severity of the weed problem without adverse effects upon yield or plant population.

In 1955 a new flame intensity trial was designed with a greater range of L. P. gas applied per acre. This range was from 2.8 to 11.1 gal. per acre. This test was applied at two locations: Hesperia fine sandy loam, Shafter, Calif., and Delano clay loam at Famoso, Calif. There is a moderate nutgrass problem at the first location, and a very serious watergrass problem at the second location. *Table 2* shows the gallons of fuel used per acre application on each sub-plot and also the lint price average from four replications at the Delano clay loam soil location.

On plots receiving 6.3 gal. of propane per acre or more per application there was a significant reduction in yield at both locations; however, there was no significant difference in yield on all other plots at either location. Flaming began when cotton was 6-9 in. tall and 40 psi fuel pressure was used throughout the season during each flaming on all plots. The plot received four flamings during the season with the exception of the plot where the 4008 tip was used and that received only two flamings.

The average price per pound was $0.3604 for lint from all flamed plots as compared to $0.3501 for unflamed. The first flaming was after the first irrigation. This test was spot-hoed early in the season on all plots. The reduction of price on the check plots was due to grassy bale classification.

Cotton flaming... A new early flame cultivation test started this year proved successful

A new *early* flame cultivation test was started this year and flaming was very successful on 4 in. tall cotton. Several years of preliminary work has been conducted to establish proper procedures for the test. The test was located on two soil types: Hesperia fine sandy loam and Delano clay loam. There was no difference in yield or final stand count between any of the plots on either soil type. The 4 in. flamed plot had the best weed and grass control of any of the plots. Yield and lint value

This equipment can flame four rows of cotton at a pass while moving at 3 mph. Note that the burners are staggered to prevent flames from each side bouncing against one another.

TABLE 3. EARLY FLAME CULTIVATION TEST — 1955

Treatment	First and Second Picking Hesperia Fine Quality Loam Soil	First Picking Delano Clay Loam Soil	
	Bales/Acre	Bales/Acre	Lint Value Cents/Lb.[1]
Check	2.24	1.51	33.15
Flamed 4 in.	2.18	1.49	36.15
Flamed 6 in.	2.21	1.41	35.83
Flamed 8 in.	2.26	1.60	36.15

[1] Fresno spot market price Oct. 13, 1955. No difference in yield at either location.

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information are shown in *Table 3.*

The average price for lint from flamed plots was 0.3604 cents, and the average price for unflamed, unhoed plots was 0.3315 cents. One lot graded grassy out of 12 lots on flamed plots; whereas all lots were graded grassy on check plots. The first flaming was conducted with a 2-2502 tip in an Arkansas burner at 3 mph and 30 psi. The burners were front cultivator mounted on gauge shoes during the first flaming. The first flaming was conducted before the first irrigation on Delano clay loam soil, and immediately following first irrigation on Hesperia fine sandy loam soil. The diameter of the cotton stalks on the Delano clay loam soil was as follows at the time of the 4 in. flaming:

16 per cent — 1/16 in. diameter

45 per cent — 3/32 in. diameter

36 per cent — 1/8 in. diameter

3 per cent — 5/32 in. diameter

Thirty-nine percent of the plants were less than 4 in. tall at the time of the first flaming. The results of this work and previous research on flaming of 4 in. cotton indicates that the size of the cotton may be much smaller than previously recommended for safe flaming. The present recommendations are for the plants to be 8-10 in. tall with a stalk diameter of 3/16 in. The only apparent reasons for requiring this size, were that previous equipment could not maintain any closer adjustment to the row than that, and also, with previous burners, flame deflection is a more serious problem. With the Arkansas burner, surface irregularities in the row do not seem to affect its performance as long as the 6 in. adjustment laterally from the row is precisely maintained.

All of the research indicates that *early* flaming has great possibilities for "bridging" the gap in mechanized weed control measures in irrigated cotton. Flaming of 4 in. cotton should not be considered until the grower has experience in flame cultivation. Proper equipment and cultural practices must be very satisfactory for that precise operation.

The results shown in *Table 4* are taken from late planted cotton especially planted for this test, and the cotton was not grown to maturity. Also, the barley was planted on June 24, 1955, and flamed when three weeks old. The first evaluation of this test was three days after flaming and the final evaluation was in one month. The barley was planted on a smooth flat bed in three rows 4 in. apart. It was used for a relative indicator of the effectiveness of flame cultivation, and should not be confused with actual control to be expected from any weed or grass species after one application. Also, barley is not vigorous during this time of the year, as indicated in the final readings, whereas slightly injured grass such as watergrass would tend to recover if not flamed again. Any of the treatments where the cotton survival is 93 per cent or more should be satisfactory. On a separate test on flame cultivation of 4 in. cotton, driving 3 mph and using 30 lb. fuel pressure; there was no difference in final stand count between flamed and unflamed treatments.

The results of this test with respect to cotton survival *do not* apply to cotton that is more than 10-12 in. tall. *(Refer to Table 1.)*

Flame cultivation is not a once-over "cure-all" weed control measure, but it is a dependable maintenance control method that must be combined with the best mechanical cultivation practices possible. A good *uniform* seedbed and planting depth are of primary importance to insure uniform height so that flaming may begin early in the season. If uniform plant height is not present, weeds and grasses may get "ahead" of the crop before the shortest cotton is tall enough to flame safely; and other control measures, such as hand hoeing, must be resorted to before flaming may be continued successfully during the remainder of the season. A good profile should be established early in the season for flame cultivation because, after flaming begins, it is not desirable to throw fresh soil to the plants. Fresh soil contains new weed seeds that will germinate after the next irrigation and greatly hinder control that is established.

Heavy parallel action dirt shields have proven to be an advantage in shielding dirt from the row and leaving a desirable profile for flame cultivation. These shields (California Agricultural Experiment Station Bulletin 747) also can be used as the carrier for nozzles for the application of selective post emergence herbicidal oils to cotton in the 2 to 6 in. stage.

The Arkansas burner, developed by the University of Arkansas, has been patented and is produced under license by selected equipment manufacturers.

Cotton flame cultivation is another example of how L. P. gas flaming can prove highly valuable to agriculture while increasing the dealer's summer load. A complete roundup of agricultural flaming can be found in the March, 1956, issue of BUTANE-PROPANE *News*. ■

Cotton flaming... LPG flaming proves valuable to agriculture while increasing summer loads

TABLE 4. RELATIONSHIP OF SPEED AND PRESSURE TO PERCENT COTTON SURVIVAL (4 IN. HEIGHT) AND PERCENT BARLEY KILL USING THE ARKANSAS BURNER — 1955

Speed	Sub-Plot	Pressure 20	30	40	60
1.75 mph	(Gal./A)	4.45	5.4	6.35	7.93
	% 4-in. cotton survival	51	52	40	0.0
	% Barley killed (initial reading)	92	96	98	98
	% Barley killed (final reading)	100	100	100	100
3.0 mph	(Gal./A)	2.59	3.15	3.70	4.62
	% 4-in. cotton survival	95	95	88	37
	% Barley killed (initial reading)	65	85	90	95
	% Barley killed (final reading)	80	95	100	100
4.0 mph	(Gal./A)	1.95	2.39	2.78	3.47
	% 4-in. cotton survival	100	100	94	93
	% Barley killed (initial reading)	50	70	75	85
	% Barley killed (final reading)	60	70	80	95

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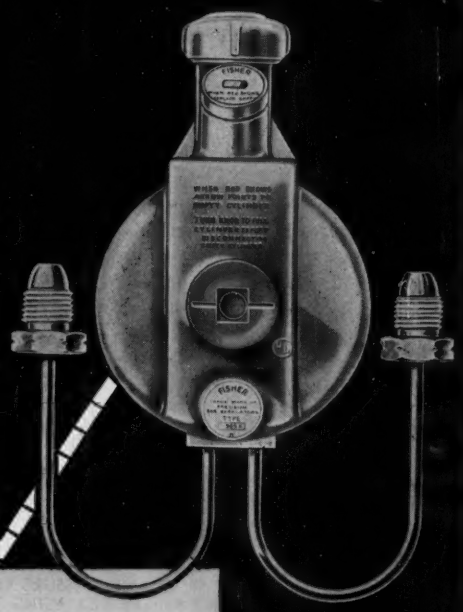

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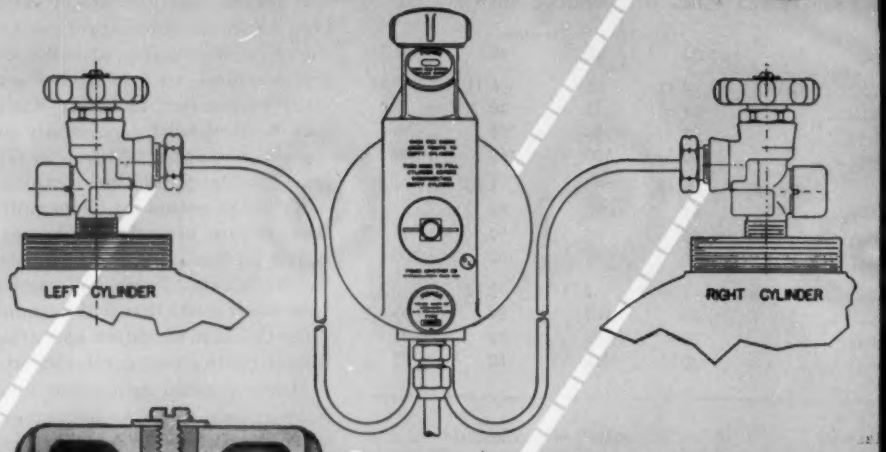

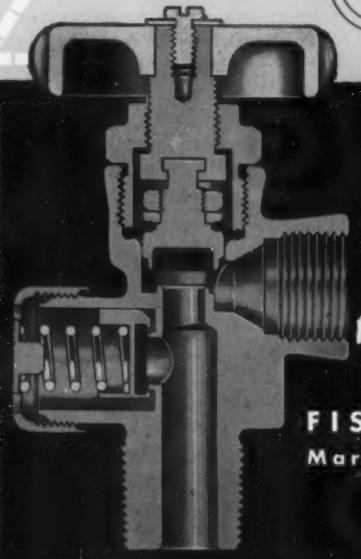

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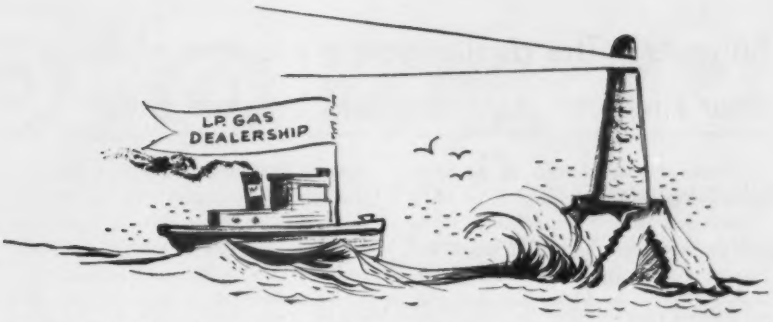


A budget might be considered as a lighthouse on which to guide a dealership through the dark and turbulant seas of business.

A budget is a plan of action

Although a budget should be considered an indispensable management tool, it is surprising how many business enterprises are run without one. While the author agrees that business success can be had without using a budget, he asks the provocative question: how much greater success could be achieved with one? A budget need not be a burdensome detail but instead should be the foundation upon which the business is built. The method of setting up sales and expense budgets for an L. P. gas dealership is outlined and administration and control of the budget are illustrated.

By MARTIN A. BROWER

How much money will your dealership make during the year? If you don't have a clear idea, you might make less than you could. A simple budget, well thought out, can be a valuable guide to any business. A budget is a plan of action.

Most successful business enterprises would not consider operating without a budget just as no army would enter a field of combat without a plan in hand.

Budgeting need not be confined to large organizations. Many a household is run—and run better—on a budget. Why then should an L. P. gas dealer, regardless of size, handicap himself by not knowing where he is going? With the year nearly half way through, it might be a good time for dealers who do not operate with a budget to consider using one and for those who already have one to give some serious thought to improving it.

Dealers who make use of a good budget and so are enthused by it are armed with an endless list of reasons why a budget should be used. One dealer rather dramatically sums it up by saying: "I use my budget as a lighthouse on which to guide my dealership through the dark and turbulant seas of business." More concrete reasons, however, might include these nine points listed by Nolen and Maynard in *Sales Management*:

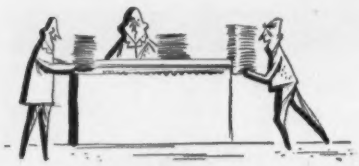
1. To base action on thorough study, investigation and research
2. To enlist the assistance of the entire organization.
3. To serve as a declaration of policies
4. To define objectives
5. To coordinate the sales effort with the purchasing and financial program
6. To select the most profitable combination of distribution factors
7. To direct sales effort into the most profitable channels
8. To control costs
9. To be able to compare actual and forecasted expenditures and income.

The first step in preparing a budget is to establish objectives and overall policy. Merely listing anticipated income and expenses and then shoving the "budget" in a drawer is time wasted. If the budget is to be useful, it must be drawn up with operating objectives and policies in mind. One

Budgets... The dealer gets a preview of next year's income statement and balance sheet

of these policies should be to make use of the budget.

Included in the list of objectives will be a determination of what the business is going to do during the budgeted year and how it is going to do it. A sales budget and an expense budget can then be developed with these objectives in mind. Most



Preparation of the budget requires the cooperation of the sales manager, service manager and yard manager with the accountant or comptroller.

dealers will plan to gain additional accounts of the same types already served while at the same time getting new types of accounts and possibly expanding the geographical area covered as well. Whatever the objectives and policies, the budget should be planned around them and then be used as a guide in carrying them out.

Administration and control of the budget is the final step in budget preparation. A definite plan for administration and control is required. Larger firms often have a budget department to administer the budget once it is established. Smaller companies usually have the accountant handle it. In any case, the chief executive of the firm has final responsibility.

In preparing and administering a budget, it becomes necessary to forecast sales and relate the actual performance to the forecast. It is also necessary to forecast and control expenses. In order to accomplish these points it is necessary to have a good accounting system so that periodic comparisions can be made and, of course, accurate information is needed.

The preparation of the budget will require the cooperation of the accountant or comptroller, who collects and analyzes records and statistical data, and the sales manager, the plant manager, the appliance manager and the service manager who supply their knowledge and technical skills. Estimate of sales and expenses will be based on past performance, as shown by the records, modified to include estimates for the future as suggested by the department heads or the dealer.

The resultant budget will be in the form of a profit and loss statement and a balance sheet for the coming year. If the dealer is not satisfied with the way the year will look, he can make changes in it before the year even begins. When he is satisfied with the outcome, as shown in the projected profit and loss statement, he must attempt to follow the budget to make it come true.

Budgets are not necessarily annual affairs. Many companies operate both long and short term budgets. The American Telephone & Telegraph Co., for example, budgets ten years in advance.

An annual basis is best for most firms, however, since a year usually completes a full cycle of activity. The general trend is to budget on a calendar year, although a fiscal year beginning in any other month to coincide with the fiscal practice of the business is equally serviceable. L. P. gas dealers might prefer the fiscal year so that the budget period does not end in December, just when winter fuel demand is high If the fiscal July 1 to June 30 period is used, the entire busy season is included in one budget.

On either basis, the budget is usually divided into months for control purposes.

The sales budget

Since the sales budget is an estimate of income to be derived, it is the most important of all budgets. It is the foundation on which the other budgets are built. Many variable costs, such as advertising, are generally based on a percentage of the expected sales.

The sales budget is the result of careful analysis and forecasting of sales. It is a combination of general and special business conditions and of the firm's sales for the period just passed.

In forecasting sales for the coming year, the L. P. gas dealer must take into effect five conditions:

1. Conditions of business in general
2. Conditions of business in the dealer's area
3. Conditions of the L. P. gas field in general
4. Conditions of the L. P. gas field in the dealer's area
5. Conditions under which the dealer expects to operate.

Most business concerns budget on a calendar year but a fiscal year might be selected so that the entire winter season might be included in one budget.

Financial institutions, large industrial firms and some publications hire staffs of experts to determine what the general business conditions will be for the coming year. It is no simple task. Since these experts are on the job, however, the rest of us are free to take advantage of their knowledge and follow their predictions. Several general business outlooks can be used and compared. For the coming year, at least all indications are that business in general will be bright with income, production and sales on the increase. The reports available from financial institutions and business publications often include charts or indexes to show exactly how much certain indicating factors are expected to increase or decrease.

Regardless of business conditions in general, your coming sales might be influenced to a much greater extent by business conditions in your particular area. While population, for example, is increasing in some

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Pictured below is a Corken Pump filling a bulk cementing truck from the motor fueling installation of Halliburton Oil Well Cementing Company's service camp Southwest of Oklahoma City.

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sections of the country, it is decreasing or is static in other sections. Building permits issued or intents of major manufacturers to move into your area or to close down their plants in your area will have a direct bearing on local business conditions.

Some firms use a combination of factors including population as reported in the census, purchasing

The sales budget is the result of careful analysis and forecasting of anticipated sales.

power as shown in bank deposits, and willingness to purchase as shown by sales in general, to forecast local business conditions for the coming year. The L. P. gas dealer with a normal interest in his community will have a pretty fair idea of what conditions will be.

Conditions in the general LPG field must also be considered since that is the dealer's business. How favorable are prospects for the L. P. gas industry as a whole? What legislation might affect it one way or another? At this time, the prospects look bright. The industry is still young and its potential growth is practically unlimited. Virtually every day new customers are won over to the fuel and new uses for it are discovered. Many dealers, manufacturers and associations are doing developmental work which will result in even greater markets for all. The outlook and new markets for L. P. gas are regularly reported by trade magazines in the field and by several refineries who employ experts to forecast sales possibilities for dealers.

Getting closer to home, the dealer must consider the future outlook for L. P. gas sales in his particular area. This will vary with location since some areas provide better future markets than others. The potential

Budgets... The potential market is first determined, then the amount you plan to get

of the area the dealer has been serving and any new areas he intends to take on must be calculated. This can best be done by consumer classification. Included in this calculation for each type of LPG user and potential user will have to be a prediction of what part competing fuels will play and how much of the potential L. P. gas business will competing LPG dealers, if any, be able to take.

Last is a consideration of how much of the available market the dealer intends to go after. If he has made an inroad in agricultural flaming during the past year and his studies show that 90 percent of that market is still untouched, how much effort does he intend to put into going after the rest? Will he hire a full-time salesman or add another salesman to his staff? These considerations will of course directly influence predicted sales.

The sales budget is arrived at by evaluating the past year's sales record in light of the above considerations. Even if all but one of the considerations remain static and the one increases, an increase in sales might be expected. The sales increase calculated must then be translated into dollars.

In arriving at the sales figure for the coming year, the L. P. gas dealer will have an easier time if he breaks down his sales budget into all of the major sales categories in which his organization engages. This might include gas, appliances, tanks and agricultural equipment. Some dealers might want a further breakdown of gas sales, for example, into domestic, agricultural, commercial, industrial and carburetion. Still others might be able to better calculate coming sales by classifying appliances into various groups. Proposed sum-

BUSINESS IN GENERAL
THE GENERAL L.P. GAS FIELD
THE LP GAS FIELD IN YOUR AREA
BUSINESS IN THE DEALER'S AREA
CONDITIONS UNDER WHICH YOU WILL OPERATE

Five conditions must be taken into effect in forecasting sales

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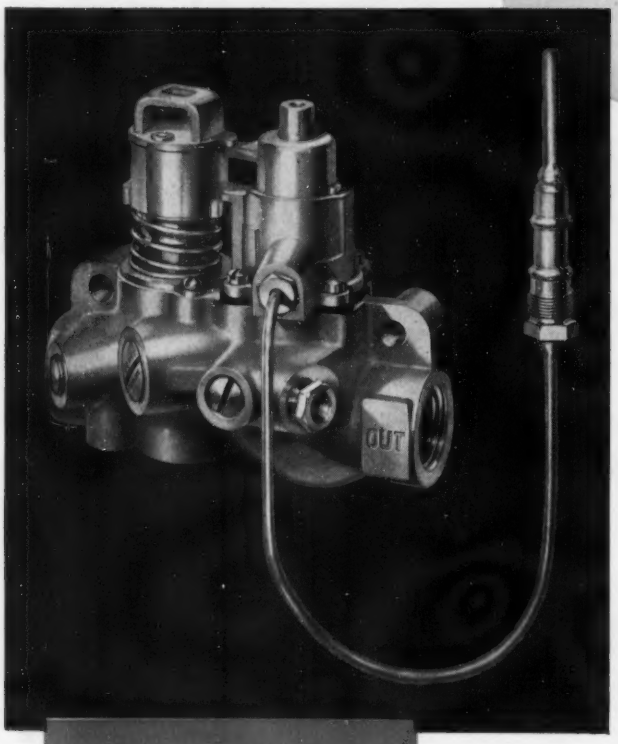

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mer sales increases through carburetion and weed burning may permit desirable increases in winter heating fuel.

When the sales budget is actually written out, these classifications should be maintained instead of lumping all sales together. This would give far better control over the sales budget during the months in which it is in force.

The expense budget

Once the objectives of the firm are established for the coming year and the sales budget is drawn up based on these objectives and on the considerations already mentioned, it is necessary to predict how much it will cost to meet the sales budget. The difference between the net sales and the expense budget will represent the anticipated profit for the coming year.

Over-all objectives to be considered in arriving at an expense budget include:

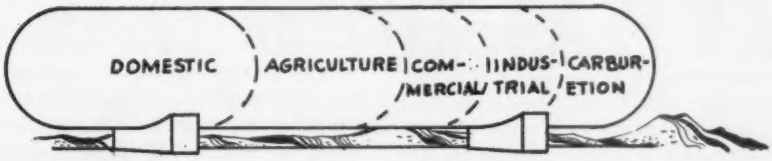
1. Achievement at a minimum of cost the goals established in the sales budget.
2. Establishment of effective tools to be used in the control of these costs.

This presents a problem. On the one hand, the size of the expense appropriation must not be curtailed to such an extent that the anticipated sales cannot be attained. On the other hand, expenses should not be so high that profits are eliminated.

In calculating the cost of operating an LPG business, expenses might be broken down into sales, distribution and handling, installation and service, new projects and administration.

Sales expense would include all costs directly attributable to making sales such as salaries of salesman and cost of sales promotion and advertising.

Distribution and handling expense would involve all costs encountered in distributing and handling the physical inventory such as storage of gas and appliances, maintenance of yard and showroom, and of course delivery of bulk and cylinder gas. Included would be rent or mortgage payments for the premises, taxes, insurance, licences, truck ammortization, depreciation, operation and maintenance, depreciation and ammortization of storage tanks and rented equipment, and salaries of drivers, deliverymen and yard men.



The sales budget may be broken down into major categories for easier calculation and control.

Installation and service costs revolve mainly around the salaries and transportation expenses of service men and would include any parts not paid for by the customer.

A cost allocation often overlooked and more often made too small a part of the budget is new projects. This involves the development of new activities and markets. It is difficult to decide how much to allocate to these projects since it is not easy to determine how much the eventual market developed will be worth. More than one dealer has discovered how big a new market like agricultural flaming is in his area only after he had already begun development.

Administrative costs will include salaries of office workers and general managers and expenses involving credit, collection and other costs of running the business in general.

Budget authorities differ on which expenses to put in which category. Clear thinking, however, should be the dealer's guide. Some may place rents and taxes in the administrative classification, for example. As long as all expenses are accounted for, the exact classification is not too important except where a strict cost accounting system is maintained.

In allocating costs, it is necessary to remember that some expenses must be divided among several classifications. In the case where a deliveryman also acts as a saleman, a part of his salary will be attributed to distribution cost and a part to sales expenses, the precentage depending on the amount of time he devotes to each.

It will be easier to arrive at an approximate expense budget for each activity listed above if costs are further divided into fixed expense and variable expense. Fixed expense is that which remains the same regardless of the dealer's sales volume. Variable expense will increase with the sales volume. Fixed costs on the same size operation should therefore be about the same as the year before, while variable costs will be increased over the previous year in accordance with the predicted increase in sales.

Examples of fixed costs are insurance and taxes, rents or mortgage payments, salaries of administrative personnel and yard men and ammortization and depreciation of storage facilities.

Expenses might be broken down into sales, distribution and handling, installation and service, new projects, and administration.

Examples of variable costs are sales commissions, truck operation and maintenance, sales and distribution salaries if additional men are hired or if overtime is necessary, and such items as bad debts.

Some firms include a third classification called semi-variable costs. These are costs that increase with in-

Budgets... An expense budget seeks to attain at a minimum of cost the sales goal set

Budgets... Periodic reports are necessary to check actual performance against estimates

creased sales but not in direct proportion. An example of this might be office and billing expense. The office force will cost a certain amount regardless of the amount of sales and can handle a certain increase in sales at no extra cost. If, however, sales increase beyond a certain point, the staff may have to work overtime or a new person may have to be added.

Advertising expense, although a selling expense, is sometimes made into a separate budget. Regardless,

It is important that expenses are not curtailed to the point that anticipated sales are impossible to attain.

it is often a problem to determine how much to allow. The major cost item is of course the media expense —the cost of newspaper space or radio time — except where a company concentrates on direct mailing to the point where that becomes the greatest cost factor.

Four frequently used methods for allocating advertising expense will be mentioned here but not discussed. These are (1) making an arbitrary allocation based on the amount spent during the previous year, (2) taking a certain percentage of anticipated sales, which is the method often used, (3) following competitors by doing as much advertising as they do but possibly going them one better and (4) objective or task, where advertising money is allocated to cover certain objectives or tasks during the coming year. The advantage of the last is that it requires a statement of advertising objectives.

The form of the over-all budget may be patterned after a year-end profit and loss statement, as previously mentioned, except that the sales and costs will be broken down more fully.

In order to keep track of the difference between the planned budget and actual performance during the year, periodic reports are necessary. These should be prepared at least monthly for each item on the budget so that figures can be compared with the monthly budget breakdown.

This is where the budget actually becomes the plan of action and a guide for the year's business. Take the case where a dealer has no budget and uses no monthly reports. He will not know where he stands until the end of the year and has no control over his activities other than to keep pushing in general. The second case is where monthly reports are used, as is usually the case, but no budget has been made. To illustrate this point, sales of appliances and gas to commercial cooking establishments for the month of August show a three percent increase over August of last year. This dealer, with no budget, will click his heels and shout with joy. But does he actually have cause for such glee? How does he know that his appliance sales to these cooking establishments should not have been 10 per cent over last year and his gas sales 12 percent more? Without a budget, he does not know.

Now take the case of a dealer who has a budget. In calculating commercial cooking sales, he took into account that population would be increasing so commercial cooking establishments would have more business. He decided that of the 15 establishments in his territory not using L. P. gas he should be able to sell four more during the coming year and that he has contributed advertising money to a local "let's eat out" campaign and to the chamber of commerce's promotional activities to bring tourists to the area during August. He believes that on the basis of these facts his commercial cooking gas sales should be 10 percent more than sales for last August. If the August report does not match up to the 10 percent increase expected, he will find out why. This dealer will not be overjoyed at a three percent increase. He has a budget and knows that he should expect more.

Expense control is considered to be of two types: control at the source and control through reports. Comptrollers will recommend that a firm make use of both types, not one or the other.

Control at the source requires that expenditures be made within the budget so far as possible so that the monthly reports will coincide with amounts budgeted. Where control through reports alone is used, spending is done freely until the reports show it is excessive and them it must be cut down at the expense of next month's sales or some other activity.

Again the warning must be issued that expenses not be curtailed to such an extent that the anticipated sales cannot be realized. If expenses for a month are lower than that for the same month during the previous year, the dealer without a budget might feel a surge of success in his management, but the dealer with a budget, who notes that expenses are less than that budgeted for that month, will investigate. He may find that he over-estimated expenses, but he may also find that costs were cut on some operation that will show up in a sales slump during the following month.

A budget, therefore, is not merely something of interest which might be worked out if a dealer has time. It is a management tool that has been found indispendable by firms which use it properly. While there is no need to make it so complicated that it becomes a burden, it likewise should not be so simple that its usefullness is weakened. As in the case of other management tools, there is one argument that is always sound: the big corporations, which by their very size have shown that they know how to make profits, maintain huge budget departments and pay whopping salaries to experts who do nothing but establish, administer and control that company's budget. If the mammoth business firm did not find that the expense is justified by not only paying for itself but by showing a profit, the budget departments would cease to exist.

A budget is your firm's blueprint of action and timetable of operation. Sure, you might be doing pretty well without one, but do you really know how much better you might be doing with one? ■

Okay . . . I WILL say it again . . .

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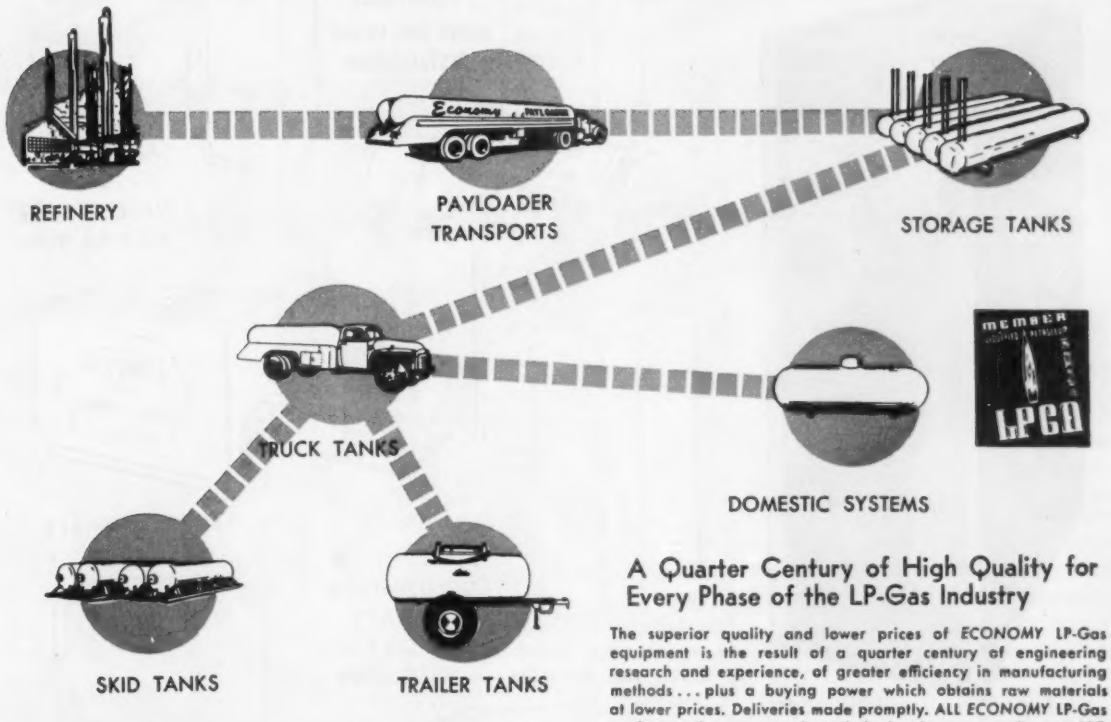

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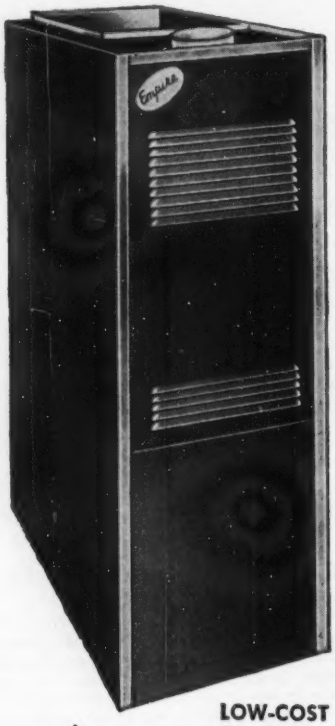

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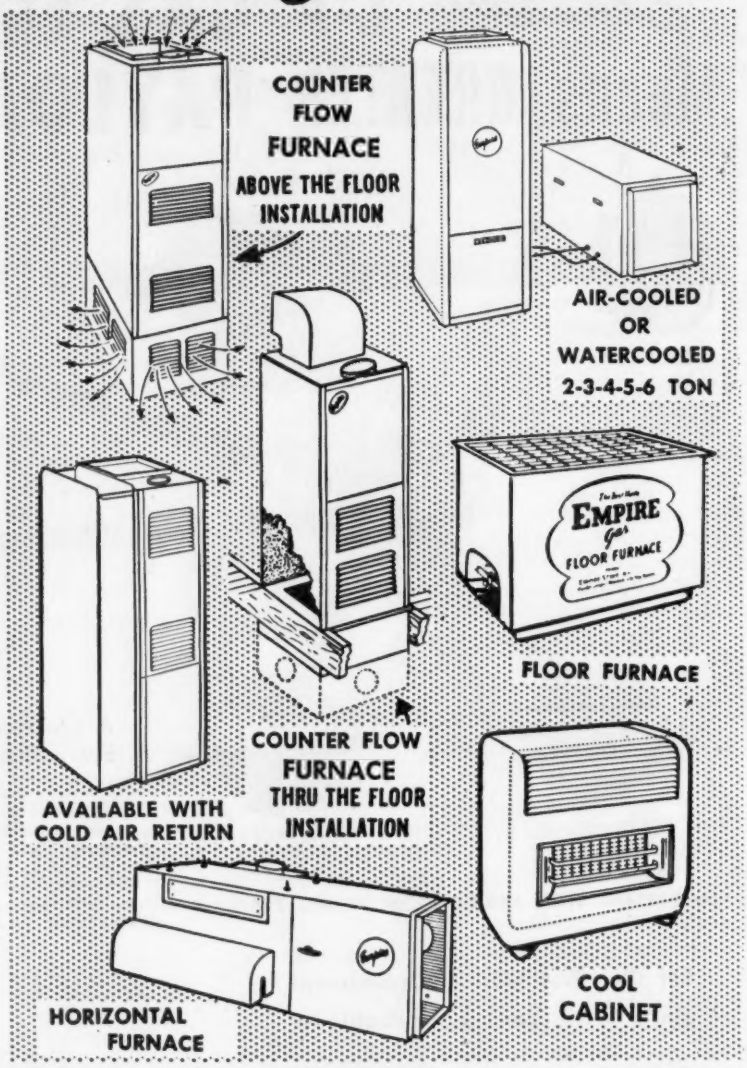

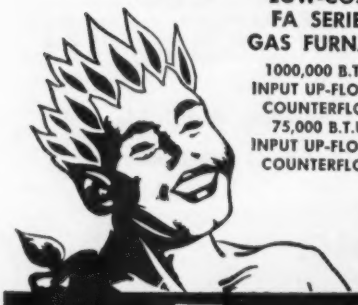

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Fig. 2. First step in replacing a Kosangas cylinder is to grasp the regulator in two hands and to press up on the bottom with the fingers.

Fig. 3. Second step is to press regulator over the cylinder valve and release. When a click is heard, the connection is complete.

Fig. 2.

Fig. 3.

Look ma, no tools

Housewives replace cylinders in Denmark

A DANISH bottled gas deliveryman's job is no more complicated than that of a milkman's in this country. He leaves a full gas cylinder with each householder and picks up an empty, not touching the connection at all. The housewife hooks up the new bottle when she is ready to use it. What's more, she does it in the house.

All this is possible because no tools are required when replacing cylinders used by Kosangas (B-P *News*, Nov., 1955), which serves 45 percent of Denmark's bottled gas market.

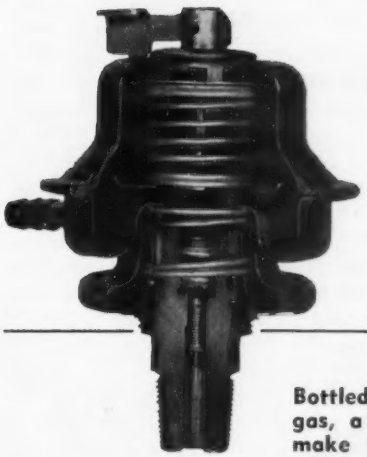

Fig. 1.

Bottled gas cylinders used by Kosangas, a Danish L. P. gas distributor, make use of a special connection which does away with the need for tools and thread wear when replacing cylinders. The connection includes a regulator without a valve and a valve built into the cylinder. Cylinder replacement is so quick and easy that the housewife does it indoors.

The Kosanges regulator is made in two parts. The gas-regulating valve, instead of being a part of the regulator, is actually a part of the gas cylinder. In order for the valve, which operates like the valve on an inner tube, to be opened, it must be depressed. This can only happen when the regulator, which has no valve of its own, is pressed down over the cylinder valve in the correct position. The regulator is attached to the gas appliance tap with a plastic hose. When the two units are together, gas pressure from the cylinder to the appliance is regulated in the conventional manner. A cutaway of a valve and regulator is shown in *Fig. 1.*

In connecting a new cylinder, the housewife holds the special regulator in both hands and applies an upward pressure to the bottom of the regulator with her fingertips *(Fig. 2)*. She then presses the regulator down over the cylinder valve and releases *(Fig. 3)*. As soon as the connection is in place and locked down, a slight

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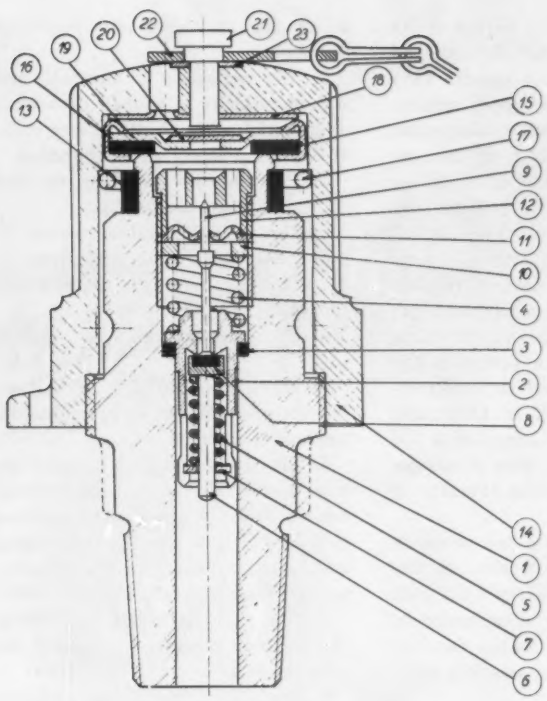

Fig. 4. The Kosangas valve with protection cap on.

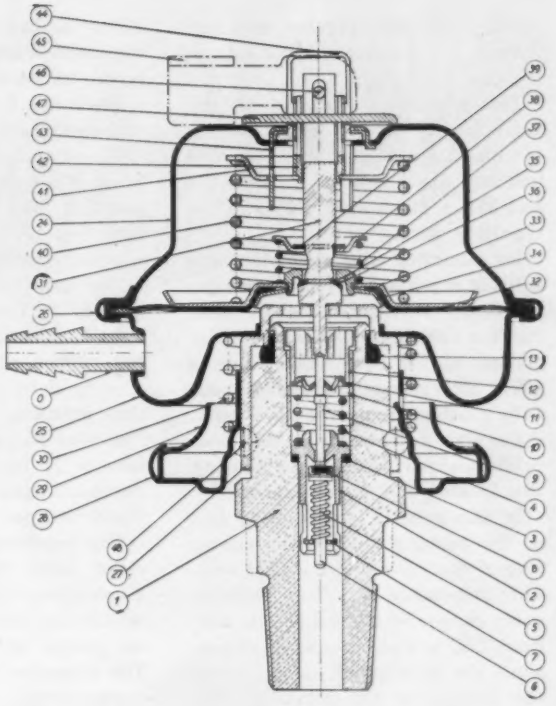

Fig. 5. The Kosangas valve with regulator on.

pos.	discr
48	ball
47	guide disc
46	screw for handle
45	handle
44	top nut
43	guide
42	adjusting screw
41	spring disc
40	spring
39	locating disc
38	spring disc
37	spring
36	rubber ring
35	seat
34	diaphram discs
33	
32	diaphram
31	spindle
30	lock spring
29	locking device
28	
27	sleeve
26	assembling ring
25	regulator house lower part
24	regulator house upper part
23	washer
22	chainclip
21	rivet
20	fuse plate
19	disc
18	disc
17	locking ring
16	assembling ring
15	rubber packing
14	protection cap
13	rubber ring
12	top screw
11	spindle guide disc
10	locking ring for relief spring
9	upper spindle
8	rubber disc
7	spring locking disc
6	lower spindle
5	spring for lower spindle
4	safety valve spring
3	rubber washer
2	valve body
1	valve house
0	hose nozzle

Fig. 6. List of Kosangas valve, regulator and protection cap parts.

mechanical click is audible and the system is ready to use. If the regulator is not in the correct position, there is no click and no gas can come out of the cylinder.

The loss of gas is so slight during the change of cylinders, that public regulatory authorities allow use of small cylinders indoors.

Similar to the German "Rackow" system, the Kosangas cylinder is under license by Danish manufacturers.

A diagram of the valve and valve protection cap are shown in *Fig. 4*. The valve itself (2) is built into the valve housing (1). It is mounted pressure tight on the seating by means of the packing, the spring and the screw. The guide disc (11) forms the upper guidance for the upper spindle (9). The top screw (12) fastens the guidance disc.

The self-closing valve consists of the lower spindle (6), the bottom disc (7), the spring (5) and the valve body.

Transport regulations require an extra seal for all cylinders while in transit. In the Kosangas system, the extra seal is provided by the protection cap shown in *Fig. 4*. The protection cap has a packing (15) which tightens against the upper edge of the valve housing. A plate (20) is soldered over the hole in the center of the packing disc (19) with Wood's Metal. The fuse-plate unit is kept in place by the locking ring (17).

In the event of fire during transport, the valve will open and overpressure will escape through a hole in the top of the cap. This vapor release process is activated by the increase in pressure of the gas when its temperature goes up. The rise in pressure forces the valve body upward. At a pressure of approximately 310 psi the spring will be depressed to such a degree that the shoulder of the upper spindle will touch the guiding disc, opening the valve.

Before the valve has been opened, the fuse-plate on top of the cap will come off, since Wood's Metal, with which it is soldered, has a melting point of 65° C. With the valve open and the fuse-plate off, excessive vapor escapes through the aforementioned hole on top of the cap.

Tests conducted abroad have

shown that the cylinder will not burst in fire due to the vapor release process.

The regulator is shown on the valve in *Fig. 5.* It consists mainly of a bushing which fits over the valve housing, the regulator housing (24 and 25), a diaphragm (32) and the regulator spring (40).

In mounting the regulator, the housing is gripped in both hands (as previously mentioned) and the locking ring (29) is pressed with the fingertips against the locking spring (30). This releases three steel balls (48) which allow the regulator bushing to slide downwards on the upper cylindrical part of the valve housing. The locking ring is then released.

In this position, the jointing face of the bushing touches the rubber ring of the valve housing (13) without depressing it. The cylinder valve cannot be opened in this position. This is true because the dimensions are so adapted as to prevent the spindle of the regulator (31) from reaching the upper spindle of the valve (9).

The next step in mounting the regulator is to press it downward so that the rubber ring is compressed (13) and the steel balls fall into the groove, producing the characteristic click. The steel balls and the locking ring then keep the regulator in the right position.

The flow of gas is turned on or off by the handle (45) on top of the regulator. When the handle is turned to the off position, the spindle (31) is lifted free from the upper spindle of the valve and the self-closing valve will automatically shut off the gas flow. When the handle is in the *on* position, the spindle pushes the upper spindle of the valve downwards opening the valve.

The compressed rubber ring is claimed to form a completely gas tight connection. Before reaching the rubber ring, the pressure has already been reduced to consumption pressure, which in Denmark, like most European countries, is 300 mm or 12 in. WC. The Kosangas regulator has a nominal capacity of 46,000 Btu per hr.

The regulator has a low-pressure relief valve for protection of the diaphragm and a top screw (42) with which the regulator is adjusted to the proper pressure at the factory. The consumer cannot possibly alter the pressure.

An explanation of all numbers used on *Figs. 4* and *5* is given in *Fig. 6.*

The regulator housing is also protected from interference by customers due to its assembly by means of the locking ring. The regulator has to be assembled by machine and the machine must be especially constructed for this purpose.

Ten features are claimed by Kosangas for its valve and regulator system:

1. The regulator is mounted and a new cylinder is hooked up with a single grip, without use of any tools. It cannot possibly be mishandled.
2. Turning the gas flow on and off is done in a single flip.
3. The cylinder valve cannot be opened in any other way then by correct mounting of the regulator on the valve.
4. The cylinder valve is self-closing.
5. When the regulator is mounted correctly, an absolutely gas tight connection is secured.
6. There is no packing in the regulator part of the system for the customer to worry about. The packing is placed on the cylinder valve itself and easily inspected by the operator at the filling plant during each refill.
7. The packing is not exposed to the cylinder pressure but only to the reduced consumption pressure.
8. The system has a high pressure safety valve in the cylinder as well as a low pressure safety valve in the regulator.
9. The protecting cap has a built-in fuse-plate.
10. The system prevents the customer from adjusting the pressure.

The Kosangas type of fuel system is widely used in Sweden, northern Germany, Ireland, Finland and Brazil in addition to Denmark ■

With the regulator on the valve, the Kosangas system is ready for operation. The regulator is connected to the gas range with a plastic tube.

When the cylinder in use is empty, the housewife will lift the regulator off and push it down over the valve of the full cylinder. Two-burner gas range has room for cylinder storage underneath.

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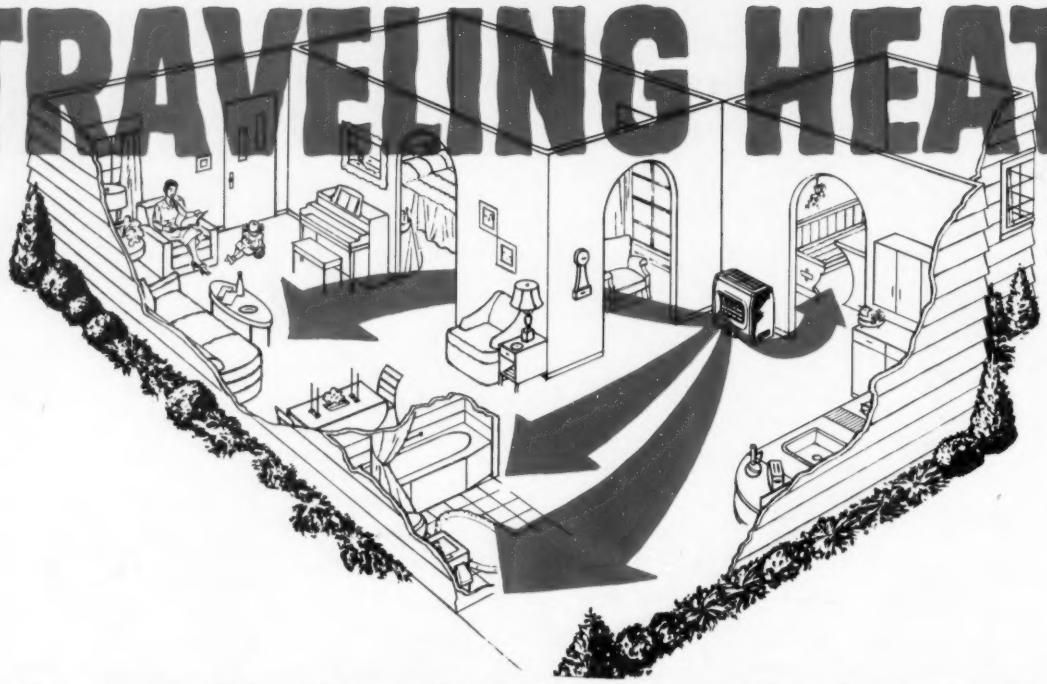

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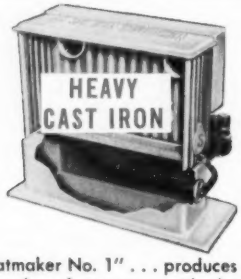
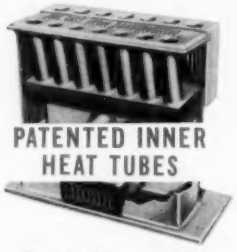
All these are reasons why LPG dealers all over the country are selling Siegler Heaters by the carload! No other heater can give *your* customers comfort, safety, health—and complete satisfaction—like a Siegler!

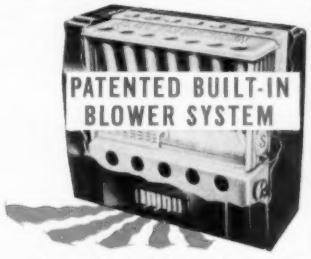
SELL THIS



"Heatmaker No. 1" . . . produces tremendous heat—even with the fuel turned off!

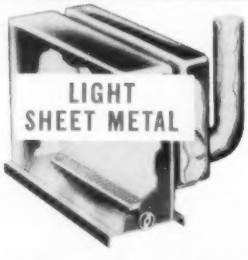


"Heatmaker No. 2" . . . uses "top-of-flame" heat to give more heat from less fuel!

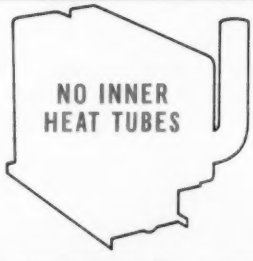


Forces heat down and over the floor . . . "travels" it to every room!

NOT THIS



"Heatmaker No. 1" . . . too light and thin for proper heating.



No "Heatmaker No. 2" . . . to use all the heat! You pay for heat you never get to use!

Heat merely rises . . . is wasted on the ceiling and up the chimney.

LPG APPLIANCES! BUILDS YOUR LOAD!

and... Siegler EXTRA QUALITY KEEPS USERS SATISFIED!

SERVICE-FREE OPERATION

Every part of every Siegler —from controls to cabinet — is designed, engineered, built, and tested to give trouble-free satisfaction!

MONEY-BACK GUARANTEE

We'll give your customers their money back if Siegler doesn't deliver more and hotter heat at the floor outlet than any other comparable size heater at any price!

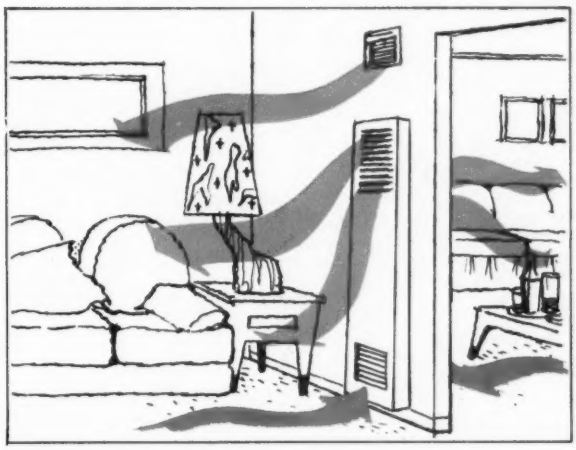
SILENT OPERATION

Siegler's patented construction eliminates ignition and extinction noises. Only the warmth you feel tells you it's running!

PORCELAIN FINISH

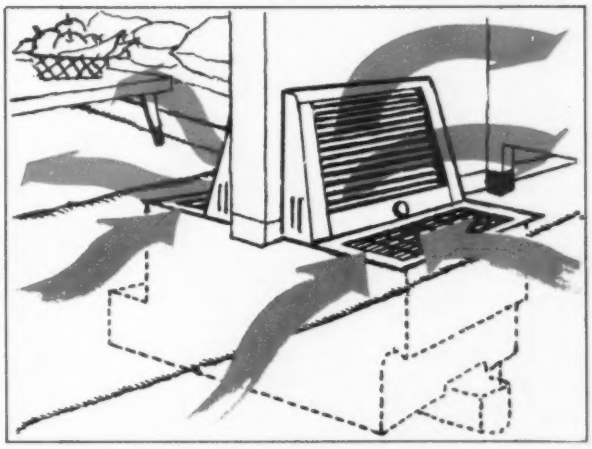
It's *fused* to the metal—not just baked-on paint! Won't peel, mar, or discolor!

and now... A COMPLETE SIEGLER LINE FOR EVERY HEATING PROBLEM!



Siegler IN-THE-WALL HEATER

Popular! Space-saving! Modern design! Gives warm floor comfort . . . wall to wall! Patented "Bonus" Heat Exchanger gives up to 25% more usable heat! Dual outlets spread heat evenly from both sides of wall! Simple to install . . . engineered to fit between 16″ studding in standard 2x4 walls. No hot walls!



Siegler BASEBOARD FURNACE

Engineered to direct warm air into room—not up the wall! Gives Furnace Heat comfort without pipes. Two-way outlets spread heat equally from both sides of wall—continuously circulates clean, warm air. All models fit 3″ or 4″ stud wall. No pit needed. "Flat model" floor furnace also available.

AMERICAN GAS ASSOCIATION APPROVED — COMPLIES WITH NATIONAL SAFETY REQUIREMENTS ®

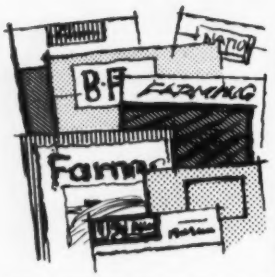
THERE'S A SIZE AND STYLE SIEGLER LP GAS HEATER FOR EVERY HOME IN YOUR AREA!

You can offer your customers a full line of Siegler Heaters—designed and engineered to provide Siegler's exclusive "Traveling Heat" for homes with from 2 to 7 rooms!

BUILD YOUR LOAD with Siegler's EXTRA ADVERTISING!

NATIONAL ADVERTISING

The biggest national advertising program —including farm publications—in the home heater business!

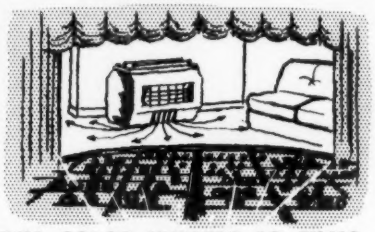


LIBERAL CO-OP PLAN

LOCAL NEWSPAPER ADS

FULL COLOR BROADSIDES

RADIO SPOTS—TV FILMS



FULL COLOR THEATRE AD FILMS

SELL Siegler! BUILD YOUR LOAD! MAKE EXTRA PROFITS!

1. Higher profit per-unit-sale than any other heater!
2. A complete, patent-protected line of quality home heaters!
3. "Own" a huge, profitable market!
4. Territory protected by Siegler's policy of selective distribution!
5. Benefit, exclusively in your market, from Siegler's and your advertising!

Siegler

PATENTED AUTOMATIC

LP GAS HOME HEATERS

THE Siegler CORPORATION
Centralia, Illinois

Gentlemen: YES!—I'm interested in building my load with Siegler LP Gas Home Heaters! Please send me full information.

NAME_____

FIRM_____

ADDRESS_____

CITY_____ ZONE_____

STATE_____

MAIL THIS COUPON NOW
Find out how you can turn cylinder sales into bulk profits with Siegler ...
The only gas heater that satisfies customers!

"Plenty of free parking space" is a phrase being used more often than ever in advertising and promotional activities. With more automobiles crowding highways, streets and curbs every day, a place to leave the old buggy is important to customers. When the dealer provides his customers with an attractive building in which to shop and a safe place to leave the car, he is engaging in a sales promotion that can add up to increased sales volume and higher profits.

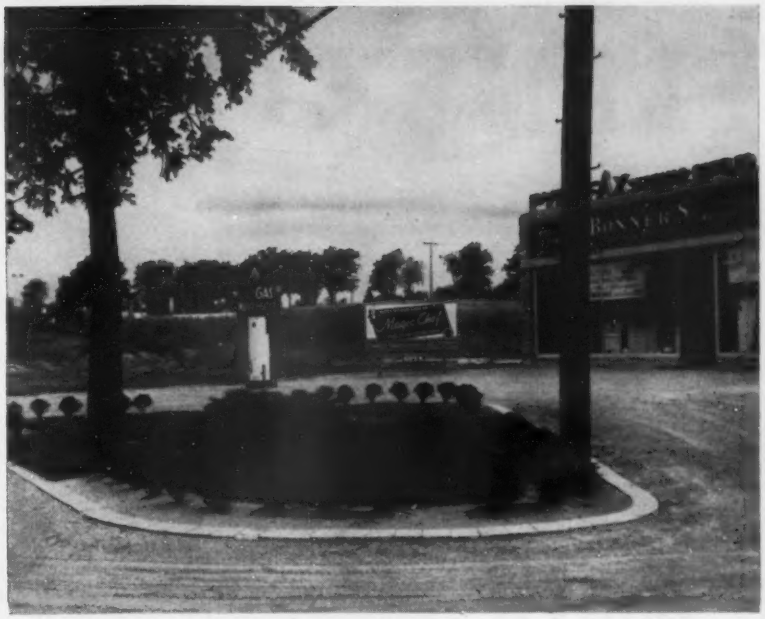


Fig. 1. A nicely-planted traffic circle beautifies this Michigan parking lot. Note the clever signs which attract attention of persons using the lot and highway travelers.

Parking areas + attractive buildings = added sales

Fig. 2. An old tank provides this Missouri L. P. gas dealer with an unusual sign that readily identifies his business and leaves a lasting impression.

THE old days when a loading dock and a driveway were characteristic of an L. P. gas dealer's place of business are rapidly disappearing. Modern dealerships have buildings and building fronts as impressive as any of their business neighbors and they are making room for parking areas—an important part of any place of business in these days of heavy reliance on automobiles.

Modern building fronts, attractive and clever signs, and room to park are all inducements which attract customers and give a favorable first impression.

Frank Bonner's Sales & Service, Pontiac, Mich., is a good example of how parking space and building can be used for sales promotion. *(Fig. 1)*. Realizing that customers dislike

BPN field report

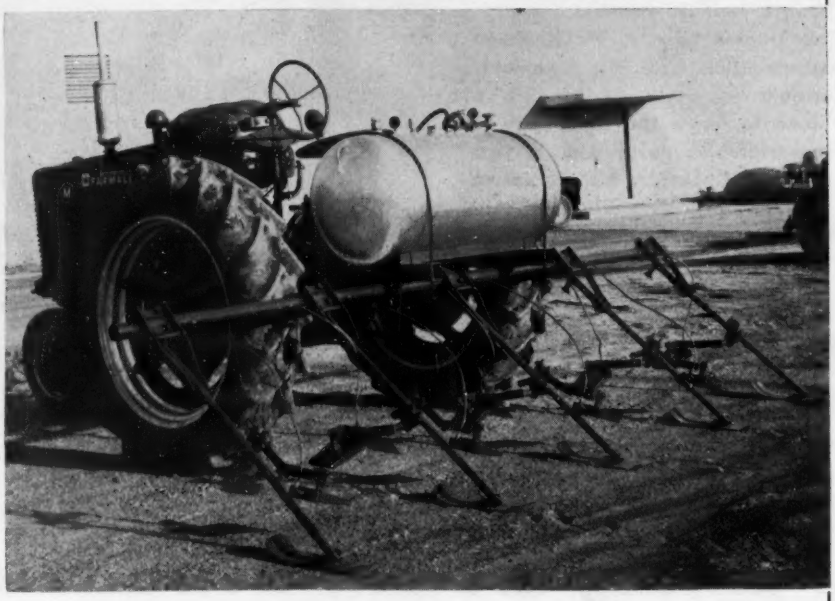
FLAME CULTIVATION!

AGRICULTURAL EQUIPMENT
Agri-Quip
CORPORATION

NOW OFFERS

LP-GAS

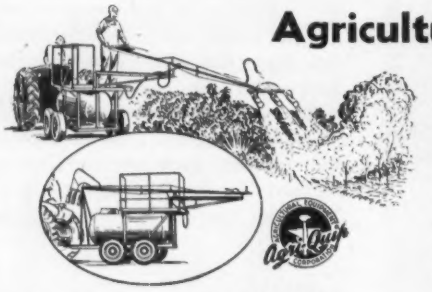
DEALERS



THE ONLY COMPLETE LINE of LP-Gas Burners for Agriculture!

Flame cultivation . . . selective burning . . . is an economical and effective method of controlling weeds in cultivated crops such as cotton, corn, soy beans and sugar cane. Agri-Quip Flame Cultivators direct a carefully controlled blast of heat hot enough to destroy young, tender weeds without injuring older and hardier cultivated crops. With weeds controlled, there is more moisture and plant nutrients available for the productive crop. Too, flame cultivated crops are normally laid by cleaner than those weeded by hand or mechanical methods.

For you, Mr. Dealer, Flame Cultivation . . . along with Weed Burning and Field Flaming . . . provides another opportunity for balancing your load. For more information on any phase of agricultural flaming, write . . .



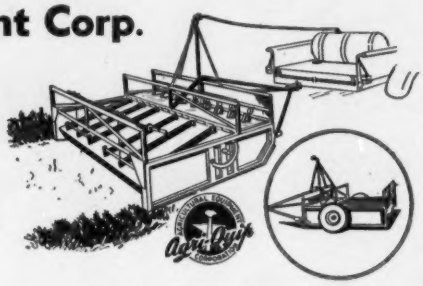
Model 4T-60-250 Weed Burner

Agricultural Equipment Corp.

Box 200-X

La Junta, Colorado

Pioneer Manufacturers of LP-Gas Burners for Agricultural and Industrial applications.



Model 2-S Field Flamer

parking along the highway, a wide-open and attractive parking area is available which invites them in. Bonner's uses a traffic circle pattern with grass and shrubs growing in the area around which the circle was built.

Near the center of the parking area is an identifying sign made from a water heater. An old heater was repainted and set into a foundation block protected from cars by steel posts driven into the ground around the base. An attractive sign which promotes the use of gas for water heating has been placed on top of the heater.

Fig. 3. Parking is made easy for customers of Consumers Gas Co. in Minnesota. Ready access makes it unnecessary for patrons to leave their cars on the highway and walk all the way back.

Serves as reminder

The unusual sign dresses up the parking lot and store front, identifies the place of business as a gas dealership and encourages the use of gas for heating while reminding passers-by and customers that they need a water heater.

Another sales promoter used by Bonner's is the Magic Chef miniature billboard sign near the entrance to the store. It can be seen by everyone entering the parking lot and building and by highway travelers.

The miniature billboard supplements all of the roadside advertising done on similar large billboards and identifies this dealer as the one who has been doing the advertising. Other dealers have also made use of miniature billboards for tie-in purposes, though the location of the sign is varied to fit the physical layout.

Before leaving Bonner's and Pontiac, Mich., the cut-out letters on top of the building are deserving of comment. These stand out during the day against the sky and make a highly effective sign when lighted at night. This type of sign is especially suited to one-story buildings.

An off-the-road location provides for parking space in front of the building if the space is kept clean and smooth. Such space is maintained by General Gas Co. Inc., Lebanon, Mo. Although it is in a line with other store fronts, General Gas can be seen from far down the street due to its impressive sign which was put up at nominal cost *(Fig. 2)*. An old small tank was repainted, lettered with an identifying sign, and mounted directly onto the front of the building so that it extends at a right angle to the building.

The tank is mounted with a heavy pipe, well braced with a support on the roof of the building. All material used was salvage.

Extras

"Oh, you mean the place with the gas tank on its front," will be a common phrase around town when dealers use such an extra. The sign leaves no doubt as to the type of business and makes a lasting impression.

Parking space has been cleared by Consumer Gas Co., Moorehead, Minn., enabling customers to drive right up to the store instead of parking on the highway and making the long walk back. The large letters on the building, which contrast nicely with the building color, can be seen easily from the road. In many cases where a building is set back a long distance from the highway, an identifying sign is erected on the highway. The sign might actually point to the sales building.

The modern glassed front at Consumers Gas makes an attractive building while transposing the entire store into a display window.

A low fence in front of the parking space which surrounds the office of the Oakford Gas & Appliance Co., Ramona, Calif., gives the customer a feeling of security in knowing his automobile is safely off of the highway *(Fig. 4)*. A well-kept, attractive building gives the customer confidence in his business dealings with the firm.

Little extras like adequate, safe parking and attractive store fronts are inexpensive sales promotion factors which can pay off in a big way. ■

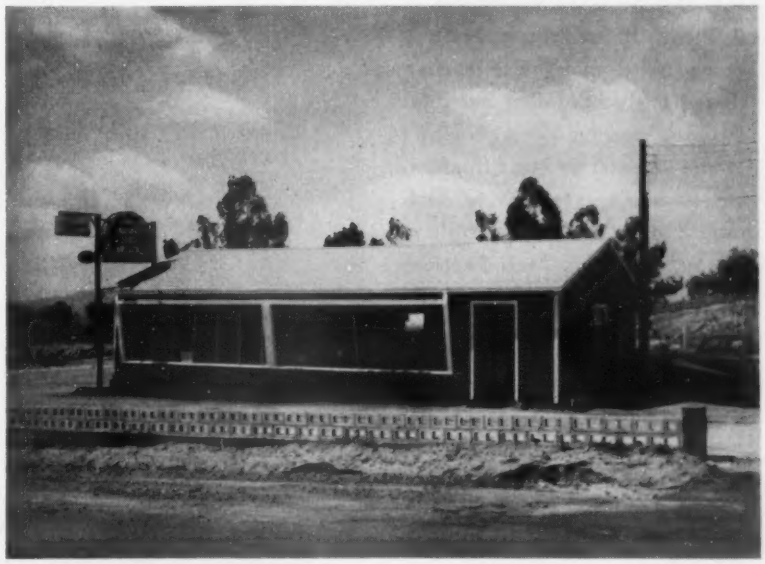
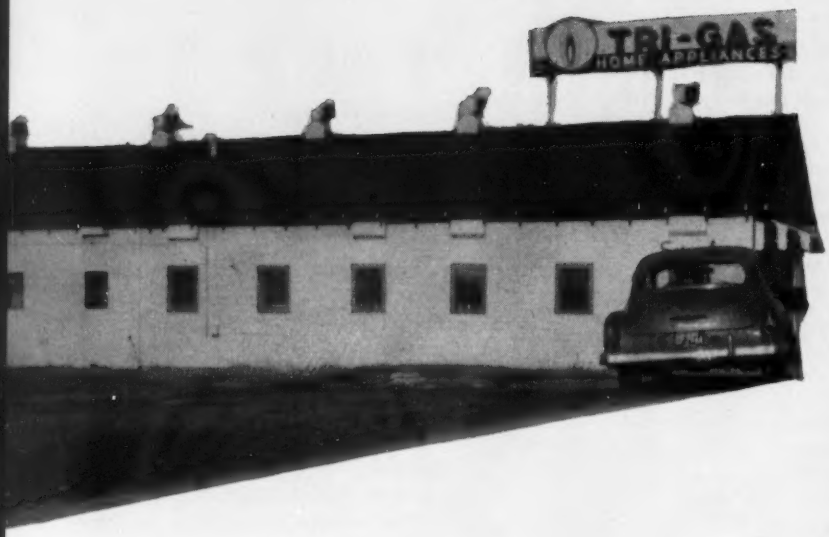


Fig. 4. Safe parking facilities and a well-kept building makes doing business with this California dealer a pleasure.



Homemakers from several counties swarm to the Tri-Gas showroom during the annual anniversary sale to register for the major appliances offered as prizes.

You can't sell them if you don't see them

Dorothy and Arch Shelton used what they call "selling by classification" to expand their L. P. gas dealership from 13 customers in 1947 to 900 customers today. Teamed with their classification selling is a program of personal calls and mass advertising. "When you sell by classification, you sell one customer in each group and he sells all the others for you," claims Arch Shelton, who is quick to add that "you can't sell them if you don't see them."

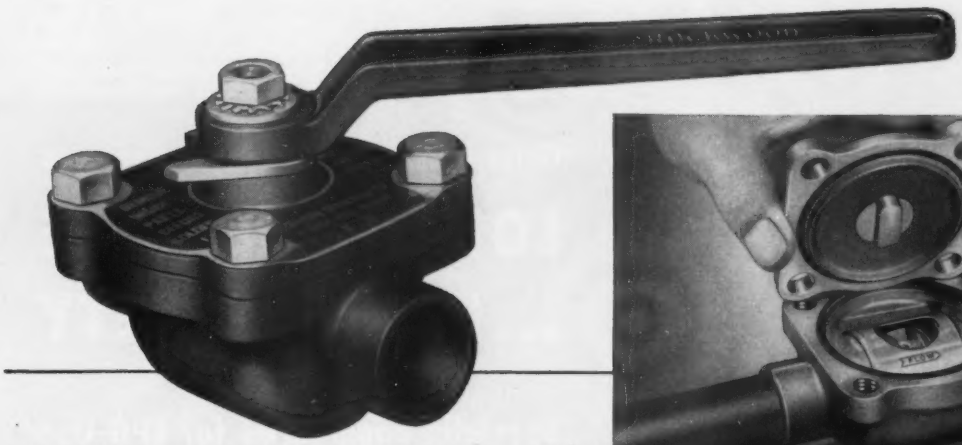
BPN field report

IN 1947, Tri Gas Service, Hopkinsville, Ky., had 11 bottle gas and two bulk tank customers. Today—without expanding its territory—the husband and wife dealership serves 900 customers, 350 with bottle gas and 550 with bulk gas. The answer, according to owners Arch and Dorothy Shelton, is "selling by classification."

Personal calls are the most important factor in selling by classification, report the Sheltons, who work by the motto: "You can't sell them if you don't see them."

The Sheltons list by classification all of the potential L. P. gas users in the area they serve, a 35-mile radius from Hopkinsville. They then con-

Dorothy Shelton, one-half of the husband and wife team which owns and operates Tri-Gas Service, Hopkinsville, Ky., helps keep a classified list of all customer prospects.



FAST, LOW-COST CHANGE IN DIRECTION OF FLOW. Removal of the body cap permits reversing the cage assembly to allow change in direction of flow. In addition, this feature lets you change seat material, and clean the valves thoroughly and quickly — *without removing the valve from the line!*

INTERCHANGEABILITY of seat material to meet your operating requirements is another feature of the Rockwood Top Entry Ball Valve. Seat can be furnished in Buna-N, Neoprene, Kel-F, Teflon, and Nylon.

EASY INSTALLATION AND OPERATION is permitted because of the new handle design. This new design allows the handle to be placed in any of *eight positions!*

Now!... New Rockwood Top Entry Ball Valve

. . . A new concept in valves that saves you money and time!

Made of bronze the new Rockwood Top Entry Ball Valve is ideal for handling oxygen and hazardous liquids as well as water, oil and gas. It carries 300 lbs. per square inch on water, oil and gas and 400 lbs. per square inch on LP gas and is available both with sweat ends and screw ends, in sizes ½", ¾" and 1".

Write for complete data on this unique full round pipe size flow.

ROCKWOOD BALL VALVES

FULL, ROUND FLOW

Distributors in all Principal Industrial Areas

ROCKWOOD

ROCKWOOD SPRINKLER COMPANY
1201 Harlow Street
Worcester 5, Mass.

Please send me complete information on Rockwood Top Entry Ball Valves.

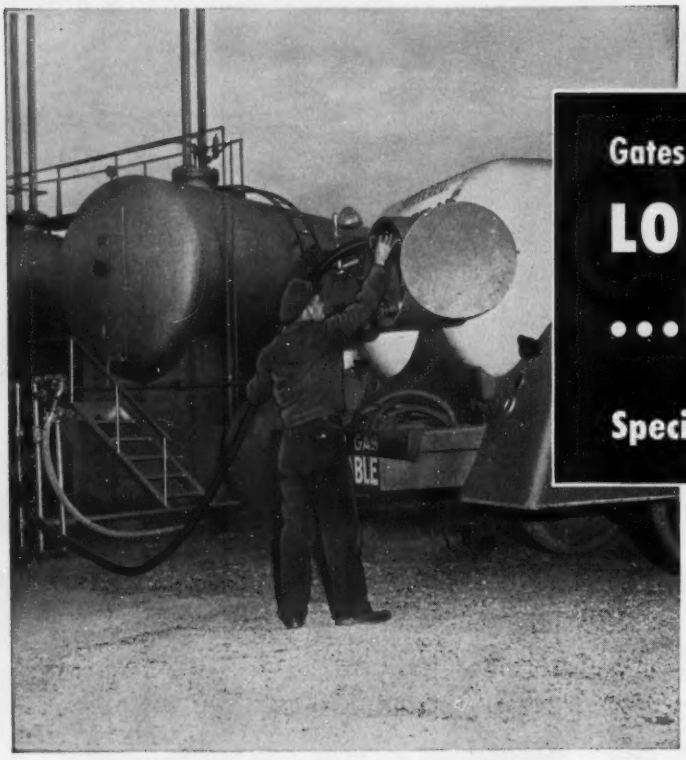
Name.....

Title.....

Company.....

City.....

Zone....State.....



Gates Butane-Propane Hose gives you

LONGER SERVICE ...EXTRA SAFETY

because it's

Specially Engineered for LPG Use

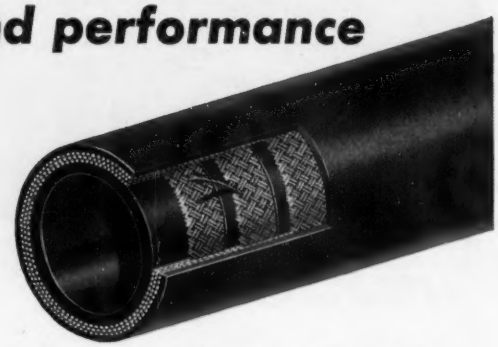
Gates engineers designed 20B-HB hose *especially* for LPG applications—taking into account *every problem* the hose would normally encounter in service of this type. Rubber compounds, braid and static wire were thoroughly tested to provide an extra margin of strength, durability and safety.

THE RESULT...year-round performance that saves you money!

1. COVER . . . tough, black, long-lasting rubber that resists abrasion and sunlight, prevents cover "blisters".
2. BRAID . . . high-tensile-strength cords tightly braided to provide ample strength for the working pressures under which butane-propane liquids and gases are handled.
3. TUBE . . . black, oil resistant, chemical rubber tube resists the permeating action of liquid butane and propane. It will not swell and will never grow soft or spongy.
4. STATIC WIRE . . . built-in stainless steel static wire reduces the dangers of static electricity.

There are Gates Engineering Offices and Distributor Stocks in all industrial centers of the United States and Canada, and in 70 other countries throughout the world. *The Gates Rubber Company, Denver 17, Colorado.*

Gates The Mark of Specialized Research



Gates 20B-HB Butane-Propane Hose meets all the stringent requirements of the National Board of Fire Underwriters, Interstate Commerce Commission, American Gas Association, Texas Railway Commission, and states with L-P Gas laws.

Descriptive Data

Inside Diameter	Outside Diameter	Reinforcement	Working Pressure PSI	Maximum Length	Weight (100 ft.)
1/2	1	Braided	350	350	32
3/4	1-1/4	Braided	350	250	45
1	1-21/32	Braided	350	175	75
1-1/4	1-7/8	Braided	250	50	90
1-1/2	2-7/32	Braided	250	50	110
2	2-5/8	Braided	250	50	140

TPA 99

Gates Butane-Propane Hose

centrate on getting one customer in each classification.

"When we can convince one person out of each classification that L. P. gas will save money for him, while doing a better job, then we're on our way, said Arch Shelton." We can help that first customer make money, and we have the best sales message in the world offered in local testimony and local proof, for others in that classification.

Best salesman

"Our present customers are the best salesmen we can find anywhere. They're enthusiastic, sold on their use of L. P. gas. Often, we take a prospect to see the equipment in use, to talk to the man in the same business as is the potential customer. It's well worth the effort involved.

"For that first customer, we rely heavily on the proof articles in the trade magazines showing how L. P. gas accomplished the job that he wants done and how it can do the same for him.

"It takes hard work, plenty of outside calls on schedule, week in and week out, but the more folks you see, the more you sell.

"Figure out which business and commercial establishments in your territory can use your services profitably. Then start calling, start talking, and start proving!" advised Mr. Shelton.

First spot

Personal calls have boosted heating equipment to first spot on the appliance sales list. In addition, personal calls by Mr. Shelton have resulted in accounts from the following classifications:

1. Fifteen local restaurants.
2. Seventeen churches.
3. Four large local motels.
4. Six farm tractors.
5. Seven chicken brooder houses.
6. Five tobacco barns.
7. Several small oil rigs.
8. A school cafeteria.
9. The local city water works which has two 1000-gal. tanks and 14 heaters.

Additions

These nine classifications are in addition to the regular domestic customers.

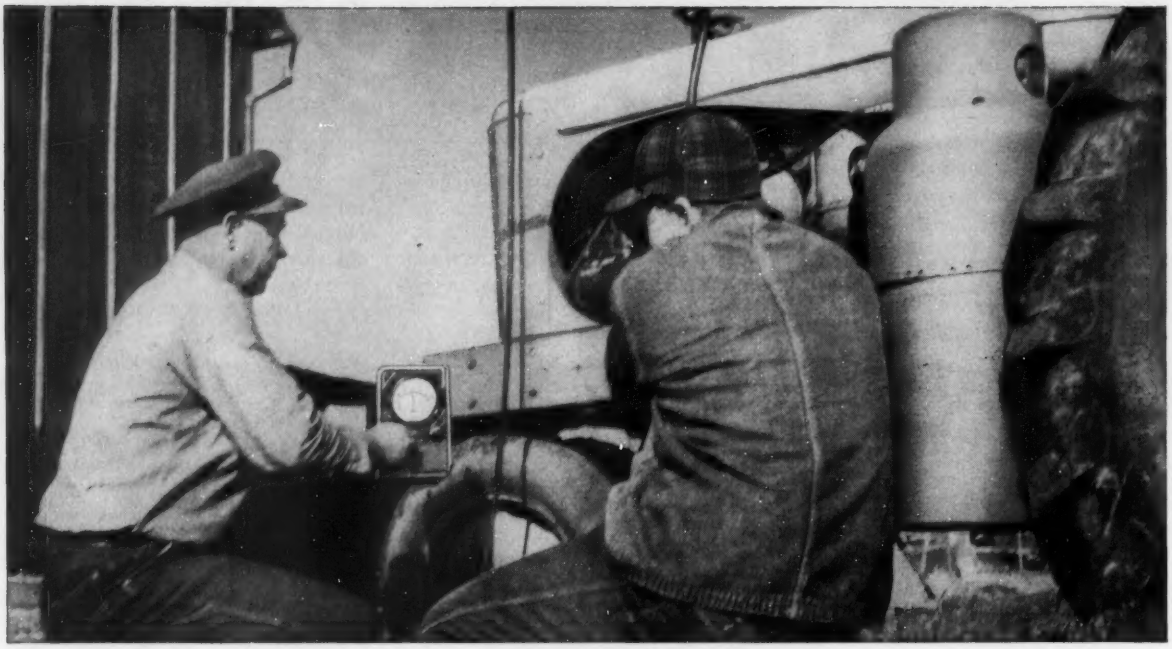
We've found that most folks we call on do not realize they are potential users of L. P. gas and our appliances and service," said Mr. Shelton, who is District No. 3 director and safety education chairman of the Kentucky L. P. Gas Association.

Classification selling... "Most folks don't realize that they are potential users of LPG"

Tri-Gas Service advertising is designed to pave the way for the personal calls. This advertising is channeled through newspapers, radio, outdoor signs, direct mail, give-away premiums and goodwill promotions. An annual anniversary celebration promotion combined with the regular advertising programs listed above consume five per cent of the firm's gross receipts.

A total of 40 inches of newspaper space is contracted for each month and is used two days per week. Extra space is taken to promote special events. Radio spots feature the currently promoted appliance twice each day for a saturation schedule.

The showroom display (upper) ties in with the appliance currently being promoted in the newspapers, on radio, on the outdoor signs and by direct mail. Two of Tri-Gas Service's five pieces of rolling stock (lower) await loading before going out to make the rounds. All of the trucks are identified with well-painted red-and-white letters.



Cities Service Distributor converts 200 tractors to LP-Gas!

Midwestern Butane Gas Company, Belleville, Illinois, sells half its propane for other than home use.

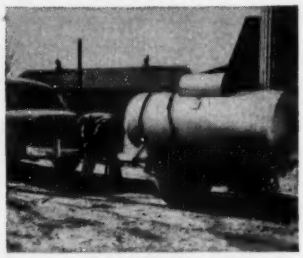
IN ONE HOUR, they convert a tractor to LP-Gas! They've already done it over 200 times.

But the men from Midwestern Butane Gas Company haven't overlooked other rich markets. Half their propane sales are for other than home use: Lumber mills, bakery ovens, orchard sprayers, quarry machinery—these and more are part of their growing market for Cities Service LP-Gas.

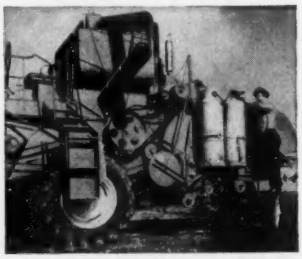
"We use Cities Service because we can always count on excellent quality, delivery, and on-the-job assistance," says Vice President Andrew Urban.

"Here's an example of that assistance: When I opened my new equipment store, three Cities Service representatives were on hand to help. And when I was called out, these men actually ran the store . . . spent hours explaining propane to my customers. What's more, they analyzed equipment conversions with the Cities Service Power Prover and provided tangible proof of the economics of using LP-Gas."

This is one of a series of outstanding reports from LP-Gas distributors, all praising Cities Service. To get the full story, call or write any of the offices listed below.



USEFUL INNOVATION is this propane tank mounted on trailer which enables farmers to keep fuel with them on the job.



LARGE SELF-PROPELLED COMBINE is one of many pieces of machinery which Midwestern has converted to Cities Service LP-Gas.

SERVICE! . . . Part of our name, part of our business

CITIES SERVICE

QUALITY PETROLEUM PRODUCTS

406 W. 34th Street, Kansas City, Missouri
500 Robert Street, St. Paul, Minnesota
20 N. Wacker Drive, Chicago, Illinois
6611 Euclid Avenue, Cleveland, Ohio

Bulk tanks are on hand for speedy delivery to customers when a new prospect is sold. The gas is metered and customers make their own readings, mailing in the reading cards once each month. A deposit is required for meters and is returned when the customer moves.

In early fall, radio spots concentrate on heating systems and in other seasons the most appropriate appliance is featured.

Direct mail promotion is done with Magic-Chef material. The mailing list is compiled from persons who register for prizes given away through drawings held during the anniversary celebration.

Ten large outdoor signs are scattered throughout the sales area and these tie in with the current sales message presented by the other media.

More than 800 4-H Club calendars are sent out to the local club youngsters in the county, along with religious calendars sent to members of the local churches. Seasonal gifts are given to customers with the outside thermometer one of the most popular items.

Promoting goodwill

Perhaps the most successful goodwill gesture undertaken by Tri-Gas Service was the donation of a restaurant range to the local Christian County Homemakers for use at the county fair. All bottle gas for the range is furnished without charge.

"This donation created a chain reaction of goodwill for us," commented Mr. Shelton, "and we also have the satisfaction of knowing that we contributed to a worthwhile cause."

The annual anniversay promotion results in a huge increase in display room traffic. Several ranges and other major appliances are offered as prizes to those who register for the drawing and crowds are attracted from adjoining counties. "The more people we see, the more people we sell," reminded Mrs. Shelton.

Celebration promotion

The anniversary celebration and the anniversary drawing are promoted heavily through all advertising channels.

The display room features Hunt heaters, Bryant forced air furnaces, Magic Chef ranges, Samco floor furnaces, Sands water heaters and other major appliances. The merchandise getting the front display point is the item promoted currently in other advertising media.

The use of both bulk tanks and meters have been satisfactory for Tri-Gas with the 500-gal. tanks the most popular in that area. Tri-Gas customers read their own meters, sending in the cards to the office each month. A deposit is required for meters and is returned when the customer moves.

24-hr service

A 24-hr service is offered to all Tri-Gas customers and arrangements are made for some person to be available for answering the telephone at every hour of the night.

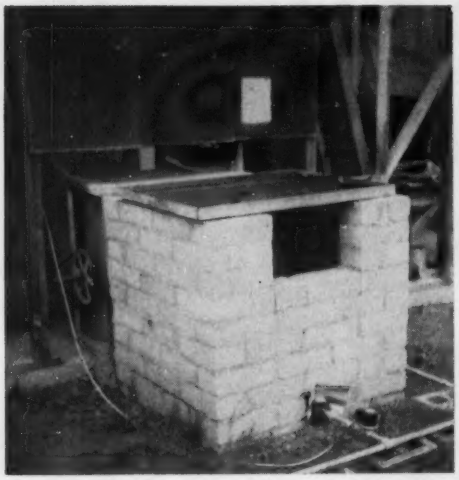
"This night service is particularly helpful for selling the commercial and agricultural accounts on our service and the use of our fuel. Take a brooder house. A matter of a few hours may cause death for all those chicks. The record of your performance must let the farmer know that he can depend on your service without question," reported Mr. Shelton.

Bulk deliveries are scheduled, using past records for routing information.

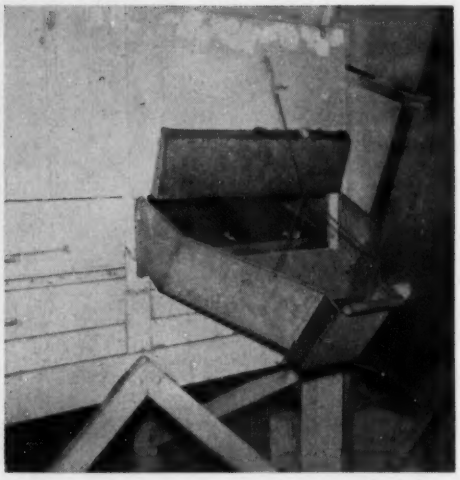
Equipment

Supplied by Texas Natural Gas Corp. Tulsa, Okla. Tri-Gas Service has 37,000 gal. propane storage capacity. Two 1200 gal. tank trucks, one pickup truck, one flatbed truck with hoist, and a ranch wagon, all with well-painted red-and-white lettering, constitute the rolling stock. One full-time man is kept busy with the bulk tank routes.

It took aggressive salesmanship backed by mass advertising for Tri-Gas Service to expand its original 13 customers to 900, finding the customers within their original territory. The business built by the Sheltons proves that selling by classification can really work and that if you see enough people often enough, you'll sell them on L. P. gas. ■



Propane-fired furnace makes hot air to cure walnuts on Don Swarthout ranch in Hemet, Calif. Temperature controls in the dryers work the burners. Blower at rear transfers heated air from furnace to dryers.



Delivery door on one of the Swarthout walnut dryers. Here the cured nuts float down the parallel rods to be sacked and sent to the Walnut Association for final grooming—bleaching of the shells.

LPG dries walnuts for market

By JIM KENNEDY

BEAT Nature to market with LPG. Choice English Walnuts are now shipped weeks sooner, fresh from the propane-fired drying ovens of Hemet valley in southern California.

Many local growers process their own. Among these are Rancho del Rio, Frank Miller, Luke Brubaker, and Lorne Smith. All use propane-fired drying units.

One of the larger operators in the valley is Don Swarthout, who custom dries walnuts for many growers—as well as the crop from his own 10-arce tract.

It is usually assumed that nature does the perfect job when ripe walnuts drop from the tree and lie on the ground to dry out. The hull eventually mellows, cracks, and falls off. All this takes time. And most of the nut meats are brown when the unattractive shell is cracked open.

People will pay a premium for the first walnut crops to reach market with attractive clean looking shells and choice white meats.

Propane-fired drying ovens make it possible to offer these advantages —and growers realize a better return.

LPG wins out

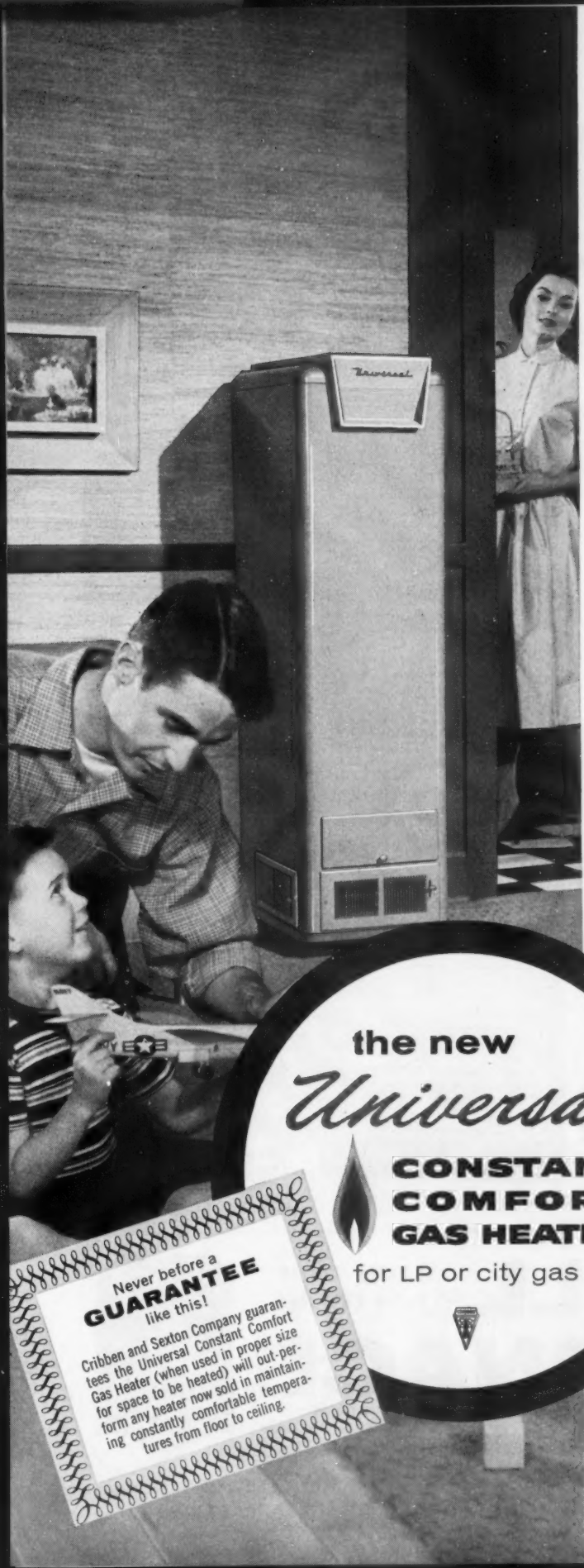
Experiments to find the best and fastest methods of drying proved to Don Swarthout that clean, odorless, L. P. gas provided the real answer. Reliability and availability of the fuel were contributing reasons why he has used LPG exclusively for years.

The crop is removed from the trees early in September with mechanical shaking machines or otherwise, as soon as it has reached maturity size but is still on the green side. Getting the walnuts early before the hulls crack is the secret of luscious white meats. But, it is almost impossible to remove the green hulls by any ordinary means.

To overcome this problem, tons of bagged walnuts with the hulls on are placed in the Swarthout gas chamber and ethylene gas is turned on. Fans keep the vapor in circulation. As the hulls absorb vapor, they become damp, then almost wet. Walnuts treated at the beginning with green hulls, require about 36 hours in the gas chamber. As the season advances, a 24-hr treatment is sufficient. Toward the end of the operation in October, the gas treatment can be discontinued entirely.

Huller

The nuts are then removed from the gas chamber and sent to the huller. This machine easily removes the hulls with a 30-in. revolving wire brush. Then, the walnuts are washed in a cylindrical drum to remove all



Now . . . offer central heating comfort at "space heater" cost!

New Universal ends off-and-on heat blasts . . . guarantees your customers constant floor-to-ceiling comfort!

If there's a market for "space heaters" in your area, there's a many times bigger one for the revolutionary new Universal *Constant Comfort* Gas Heater. Because here, for the first time in 20 years, is an entirely new and efficient home heater principle that ends cold drafty floors and hot ceilings.

Constantly circulates warm, filtered air all over!

Just like the most costly modern central heating systems, the new Universal *Constant Comfort* Gas Heater continuously circulates warm, filtered air all over the rooms at all times. It automatically maintains even temperatures from floor to ceiling. Yet it actually costs *less* than some ordinary "space heaters," requires no additional installation and lowers fuel costs by re-circulating preheated ceiling air.

Act now on this big profit opportunity!

There's already a fast-growing demand for heaters in motels, house trailers and many other *new* locations. Now Universal's many revolutionary new features will open a huge new replacement market in homes, businesses and other locations where heaters are in use.

Don't delay. Rush the coupon for complete details today—plus news about the consistently powerful promotion program that will *move* Universal *Constant Comfort* Gas Heaters right off your floor!

the new *Universal* CONSTANT COMFORT GAS HEATER for LP or city gas

Never before a **GUARANTEE** like this!

Cribben and Sexton Company guarantees the Universal Constant Comfort Gas Heater (when used in proper size for space to be heated) will outperform any heater now sold in maintaining constantly comfortable temperatures from floor to ceiling.

Products of Cribben & Sexton

Universal Gas Ranges

Universal Automatic Gas Clothes Dryers

Universal Consum-all Gas Incinerators

Cribben & Sexton Co., 700 N. Sacramento Blvd., Chicago 12, Ill.

Gentlemen: Please rush complete information about the special money-saving advantages of placing my Universal Constant Comfort Gas Heater order now.

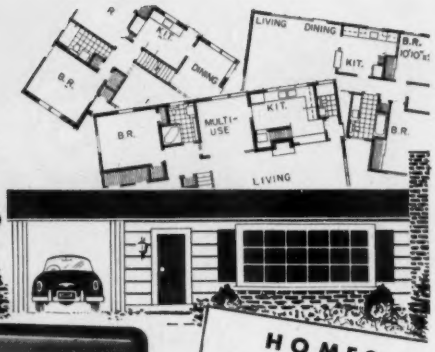
your name_____

firm name_____

street address_____

city_____ zone____ state_____

Looking for PROFIT?



Sell Heating you can trust!

Auto BLO - AIR Circulates Heat

MULTIPLE MARKETS ARE YOURS WITH THE BRILLIANT FIRE WALL FURNACE LINE . . . SOUND, PROFITABLE MARKETS FROM MAIN STREET TO THE SUBURBS. HERE'S LOW-COST HEATING IN MOST MODERN FORM . . . REQUIRES NO FLOOR SPACE OR DUCTWORK, PROVIDES INDIVIDUAL TEMPERATURE CONTROL IN EVERY ROOM.

The BRILLIANT FIRE comes all ready to anchor in standard wall studding, New or Old construction . . . and it adjusts to exact wall thickness in a jiffy. It's quiet, efficient, safe . . . complete in multi-insulated wall box. Non-clog burner and combustion header are rugged castiron. Safety Pilot and Draft Diverter built-in. Heating Section is 100% gastight (continuous-weld) . . . odorless, non-sweating. Unit is easy to install, simple to operate . . . geared for years of matchless service. Assures maximum heat on minimum fuel . . . with accent on Living Zone comfort. Fully Guaranteed.

POTENTIAL UNLIMITED

In the home, BRILLIANT FIRE is suitable for any room . . . complements any decor. Ideal for rumpus room or hobby shop. It's a natural for correcting "cold spots" in central-heated homes and the simplest way to comfortize "added-on" living space.

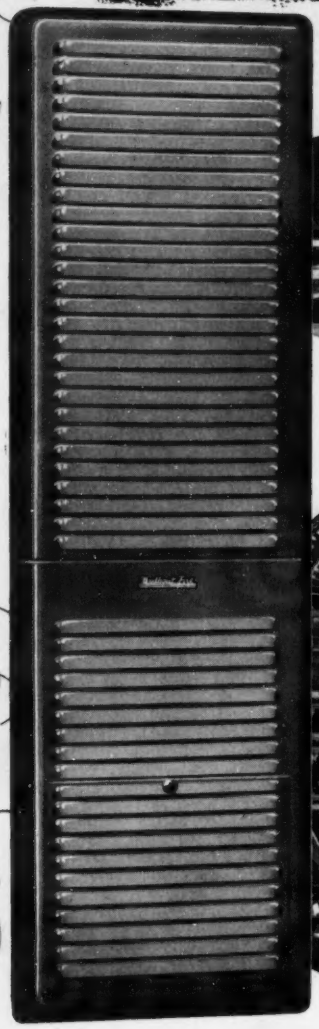
Demand for BRILLIANT FIRE is skyrocketing in other markets, too . . . the Housing Project, Motel, Apartment, Office, Club, Lodge, Salon, Store, Tavern, Waiting Room, Laboratory, Church, School, Rest Home, etc. . . . Wherever space-saving and economy are factors.

Full AUTOMATIC CONTROL Too

100% GASTIGHT Welded

SINGLE & DUAL-ROOM MODELS

Rear AUXILIARY OUTLETS Too



HOMES
For NEW HOMES or when MODERNIZING

MOTELS
Here's but one of New Orlean's modern Courts completely BRILLIANT FIRE equipped.

HOUSING PROJECTS
All 654 Ridgeview Park homes in Davenport are equipped with BRILLIANT FIRE Wall Furnaces.

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CATALOG 5W5 PRICES FRANCHISE DETAILS

SERVICE CHEKD
Brilliant Fire
SINCE 1846

WALL FURNACE

☆ Fully Vented
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FOR NATURAL • MANUFACTURED • MIXED • LP GASES

other BRILLIANT FIRE Heatmakers
• FLOOR FURNACES
• WINTER AIR CONDITIONERS
• VENTED & UNVENTED CIRCULATING HEATERS
• GAS LOGS, WALL & FIREPLACE HEATERS
Write for Catalogs

THE OHIO FOUNDRY & MANUFACTURING COMPANY • • • • • • • • • • • • • STEUBENVILLE, OHIO

traces of the slimy hull mass.

From here an endless belt carries them to the four drying ovens, each accommodating a ton of nuts.

Floor of dryer

The floor of the walnut dryer is built on a slant and the nuts are fed in at the top. The crop is floated down over parallel rods with openings between them. A hot blast of air enters below the rods and passes up through the walnuts to carry off moisture. Temperature of the blown air is automatically maintained at between 105° and 107° F. After curing, the load is removed by gravity through the delivery door at the bottom.

Curing period tapers

When the nuts are quite green in September, 48 hours is required for drying. As weeks go by, the nuts contain less moisture, and less drying is needed. The curing period is gradually tapered down to about six hours toward the end of the season.

Walnuts... After curing, the nuts go to the Walnut Association for the final grooming

Two furnaces

Heat for the Swarthout dryers is provided by two furnaces, each fitted with propane burners and automatic valves, remotely controlled from within the dryers. The burners go off and on to maintain temperature within the 2° limit. Each furnace provides enough hot air for two drying ovens and powerful fans force it through ducts to the dryers.

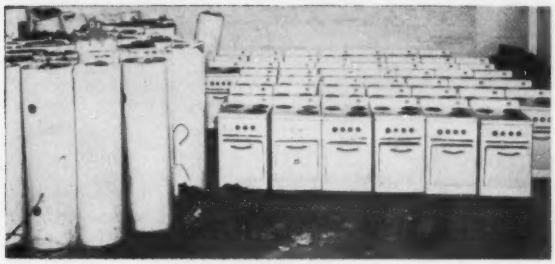
After curing, the nuts go to the Walnut Association for the final grooming — bleaching of the shells. This improves appearance, appeals to appetite, and results in sales.

Five hundred gallons of L. P. gas per week for seven or eight weeks of each year is required to process the 100 tons of walnuts which pass through Don Swarthout's operation. A 500-gal. propane tank on the premises provides fuel for the burners.

This operation precedes the usual winter demands for fuel. It helps to balance the load of Petrolane-Hemet Gas Service, who supply Don Swarthout and many similar operators in the area. Storage facilities of 5600 gal. of propane and 1650 gal. of butane are available to take care of the needs of such customers.

L. P. gas methods speed up nature's schedule and bring walnut producers greater reward. And, it may be that these same methods can be applied to many other crops in different parts of the nation. ■

Gas ranges and water heaters replace electric in housing project



Some of the electric water heaters and ranges which were replaced by gas appliances at the Greenway Realty Housing project in Sidney, N. Y.

Preparation of installation for 120 Happy Cooking appliances is made at the housing project by Seven States Gas Service, Inc.

SIXTY residents of the Greenway Realty Housing Project, Sidney, N. Y., were recently made happy with L. P. gas, after being decidedly unhappy with electric cooking and water heating. The management of the project replaced 60 electric ranges and an equal number of electric water heaters after the tenants had "practically worn his ears off complaining about high electric bills and inadequate hot water."

The discarded electric ranges and water heaters were all replaced by new Happy Cooking automatic L. P. gas ranges and Happy Cooking water heaters supplied and installed by Seven States Gas Service Inc., Sidney, who also installed metered propane systems to serve the tract. Does anybody want to buy a carload of discarded and discredited electric ranges and electric water heaters? ■

"PERFECTION'S"

One-Piece Golden Dome...

Provides Quick-Opening Action And All-Weather Controls Protection!

One of the many features about the BS&B "PERFECTION" Propane System that makes it a stand-out from all others is the one-piece golden dome with hinge and offset latch for quick, easy opening. Its close fitting contour design affords complete all-weather protection for the conveniently grouped controls inside.

Other important features are the recessed internal relief valve for maximum safety, the heavy lifting lugs placed far out on the heads of the tank for better balance and ease of handling, the sturdy one-piece steel channel wrap around legs, and the *optional* spray fill adapter which allows capacity filling of the tank without vapor return line.

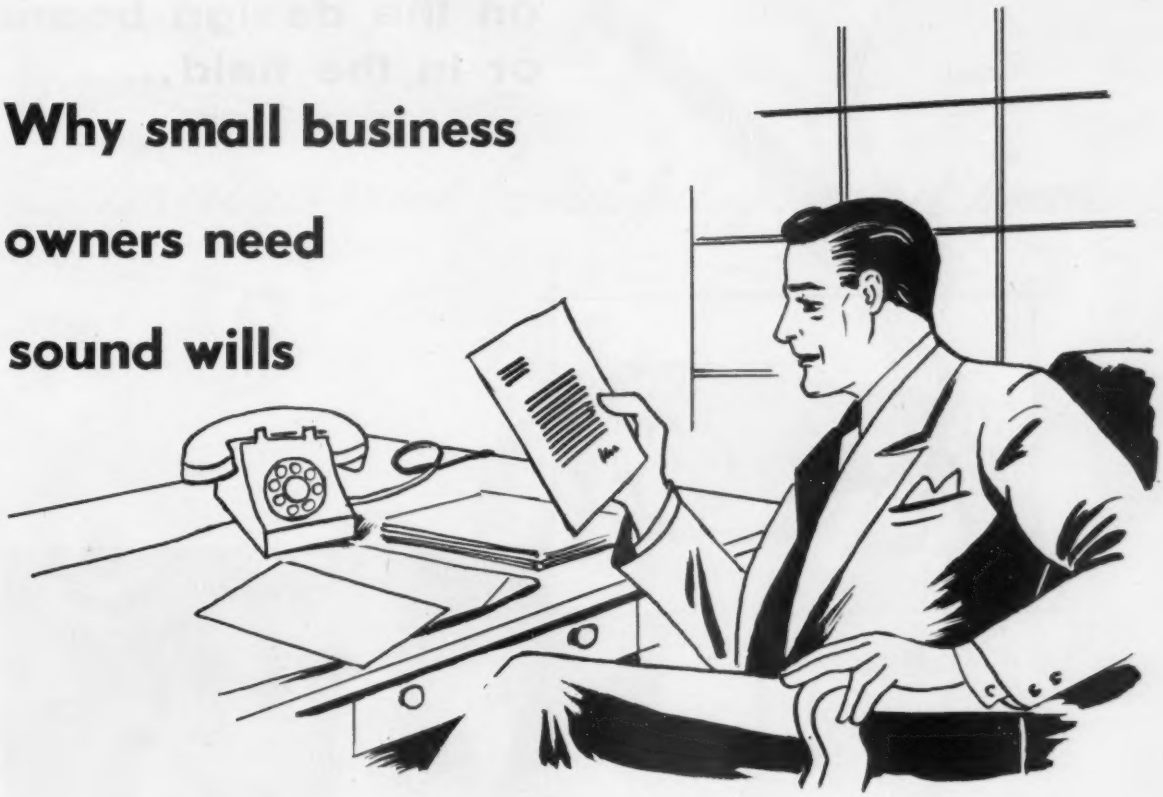
Why not standardize this year on the one propane system that has *everything* your customers want and need—BS&B "PERFECTION" . . . with the Golden Dome!

EFFICIENCY
OVER 60 YEARS
BS&B
RELIABILITY
ANOTHER EXAMPLE OF PRODUCT LEADERSHIP

BLACK, SIVALLS & BRYSON, INC.

Propane Equipment Division, Dept. 6-AB6
7500 East 12th Street, Kansas City 26, Missouri

Why small business owners need sound wills



By **ROBERT D. WALKER, Vice President** • Valley National Bank, Phoenix, Ariz.

MANY successful small business concerns have been forced into liquidation because the principal owner died—without having a proper will. These situations are wasteful, unfortunate, and unnecessary. A will, soundly conceived and correctly executed, can obviate many problems and help to perpetuate a business. Weighed against the known risks, the cost of having a good will drawn and kept up to date is not high.

Recently, in discussing the problem of wills, a representative of a manufacturing company told of the case of a small retailer who had long been a regular customer. Here in his own words, is the report which the sales representative who handled the account sent back to his home office.

"Company: Baker and Baker
Problems: Death of owner
Progress: None
Remarks: A partnership existed between Mr. and Mrs. Baker. Mr. Baker died without leaving a will. The business has fallen off greatly while the problems of management are entangled in a legal maze. I see no hope of the business being salvaged. Therefore, I have stopped calling on Mrs. Baker. This case should serve as a good example to the businessman to make provisions whereby the management of his business can be passed on without dissolving the present operation."

Small business needs

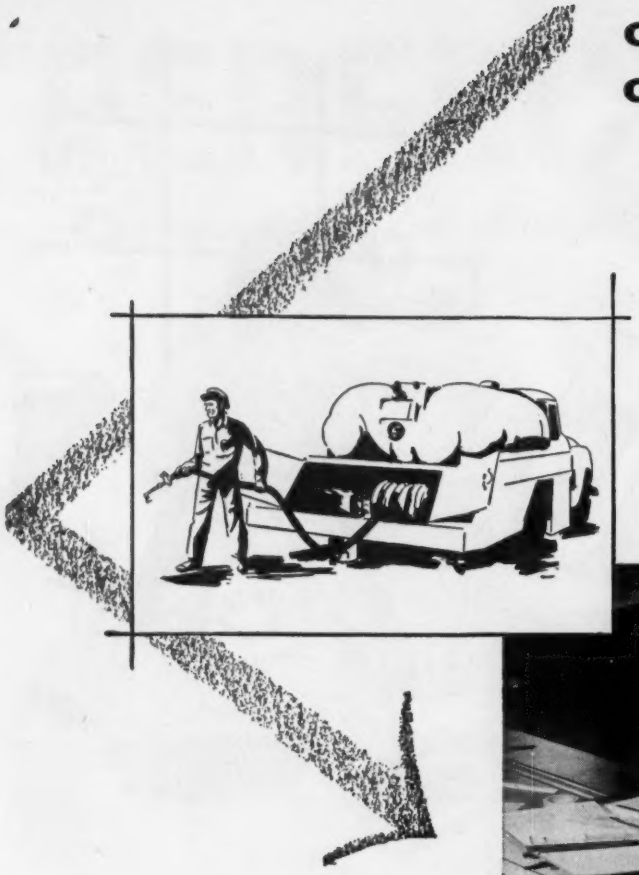
Small estates need just as careful planning as larger ones. The tax factors may not be so large in absolute figures, but certainly the potential shrinkage is proportionately higher in the smaller estates—not only in terms of the costs of administration, but also in terms of the losses due to lack of prompt and experienced attention to affairs of the related estates and businesses.

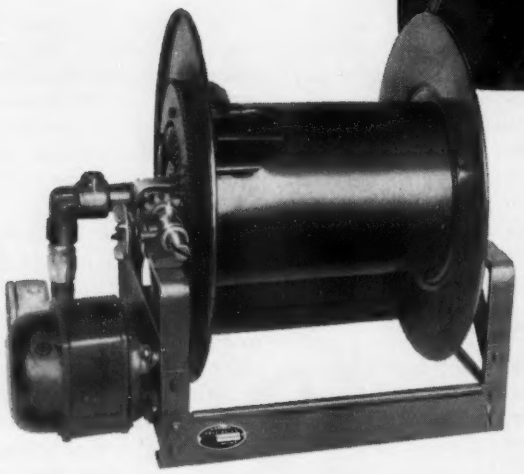
In the first place, the owner of a small business should provide, through a will, for his executors to carry out any arrangements made during his lifetime for the sale or other disposition of his business interests. Or, in the absence of such arrangements, to continue the operation of the business during the period of administration, at the risk of the owner's estate.

In some situations, it may be appropriate to plan for sale of the business equipment and inventories and for retention of the actual real estate to be rented as an income asset for the beneficiaries. But a mandatory direction for the businessman's executors to sell or liquidate a business may or may not be advisable. The probable benefits from continued operation must be compared with the probable proceeds of liquidation. If potential purchasers of the business become aware that the executors are required to sell it, the market value of the concern often drops off very sharply.

Continued on page 89

on the design board or in the field...





Superior performance in the field—that's what really counts where Hannay Reels are concerned. Design board expectations and developmental work must be justified in actual service.

Because Hannay Reels live up to all that is expected of them, *and more*, they have become the accepted standard of the LP-Gas industry.

You will find it profitable to put Hannay Reels to work for you. Be sure you *specify* and *get* Hannay.

Send for free catalog with complete specifications

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America's most beautiful gas unit heater...

the *Magnificent*

Modine

a new concept in styling and performance sets pace in gas-fired unit heating

Beautiful... to be sure! But there's more to the new Modine than meets the eye

Here at last is a gas unit heater so strikingly beautiful it can be installed with pride in the finest commercial, institutional and industrial buildings. Truly distinctive lines and attractive soft green finish are accented by sparkling medallion, grilles and panel of polished chrome. Yes, the new Modines are in a class by themselves — thanks to the skill of famous designer Jean Otis Reinecke.

And the new Modines are as great as they look . . . in performance, economy and safe, trouble-free operation. Check these unmatched benefits:

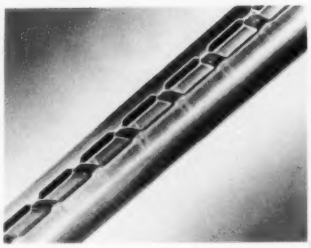
New performance — Improved stainless steel burners and choice of stainless or aluminized steel heat exchangers, with combustion air inlets located directly below, increase heating efficiency, minimize corrosion.

Quieter operation — Lower speed motors, new fan design and resilient motor mounting assure quieter operation at full-capacity heat delivery . . . provide ample heat throw to all areas without hot blasts.

Lighter weight — Actual comparisons show the new Modines to be *up to 50% lighter* than other makes. They are easier to install, cost less to ship and handle.

Wider range of sizes — The new Modines are available in eight sizes now, ranging from 25,000 to 310,000 Btu. There's a size for every application of natural, manufactured, mixed, LP and LP-air gases.

For full particulars, see your nearest wholesaler or the Modine representative listed in your phone book. Wholesaler franchises still open in some areas.

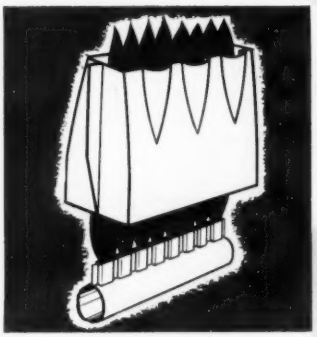


SELF-CLEANING PORTS

Knife-sharp stainless steel ports have four times the free area of drilled ports. Keen edges resist lodging of dirt and scale, maintain uniform flame.

IMPROVED COMBUSTION

Hooded combustion air inlets directly below each tube assure higher burning efficiency, minimize flame disturbance.



FASTER, MORE UNIFORM HEAT

Continuous, uniform flame from front to rear of individually and directly-fired tubes boosts radiant heat absorption and uniform heat distribution.

SAFETY MEASURE

Sturdy guard protects against hazards of exposed fan and provides resilient suspension for motor and fan assembly, further reducing vibration noises.

BIG SIZES, SMALL PACKAGES

This 25,000-Btu Modine gas unit heater weighs only 35 lbs. New Modines are ideal for factories, offices, laboratories, washrooms, garages, service stations, stores.

CLIP THIS COUPON AND MAIL TODAY

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Please send me immediately a free copy of new bulletin, "The Magnificent Modine Gas-Fired Unit Heater."

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Modine
GAS UNIT HEATERS

...who needs a crystal ball?

when **profits** depend...

on the fast-selling automatic WATER HEATERS

by

D·W WHITEHEAD **DWW**

LPGA

ESPECIALLY DESIGNED FOR **LP GAS**

After all, who does?—when DWW's are so FAST MOVING... when they've proven time and again to provide the long-lasting DEPENDABLE performance—the abundant pure RUST-FREE hot water—customers CONSTANTLY look for. AND—that's not all—because DWW's are carefully engineered for fast, trouble-free service, for *extra* value-packed features and built-in conveniences, they can't *help* being economical... can't *help* assuring customers the low operating cost of just a few pennies a day. That's why WE know WE don't need a crystal ball—why we know YOU won't either—once you've begun featuring this sure-fire sales-maker—the Automatic Water Heater by D. W. WHITEHEAD.

DWW'S BUILT-IN FEATURES

- low operating cost
- quick, abundant hot water
- 100% automatic safety pilot
- non-clogging burners
- two inches heavy Fiberglas insulation prevents heat loss
- dust-free base
- adjustable thermostat easily set for any temperature
- built-in lint tank
- gleaming white enamel casing
- advanced design with latest scientific improvements
- precision engineering

MORE SELLING POINTS

D. W. Whitehead Automatic Water Heaters are available in tank models featuring an exclusive one-piece glass lining or double extra-heavy galvanized tank.

GET IN ON D. W. WHITEHEAD'S PROFIT-PACKED WATER HEATER RENTAL PLAN.

WRITE TODAY FOR FULL DETAILS!

Liberal 10-year guarantee

Nationally advertised

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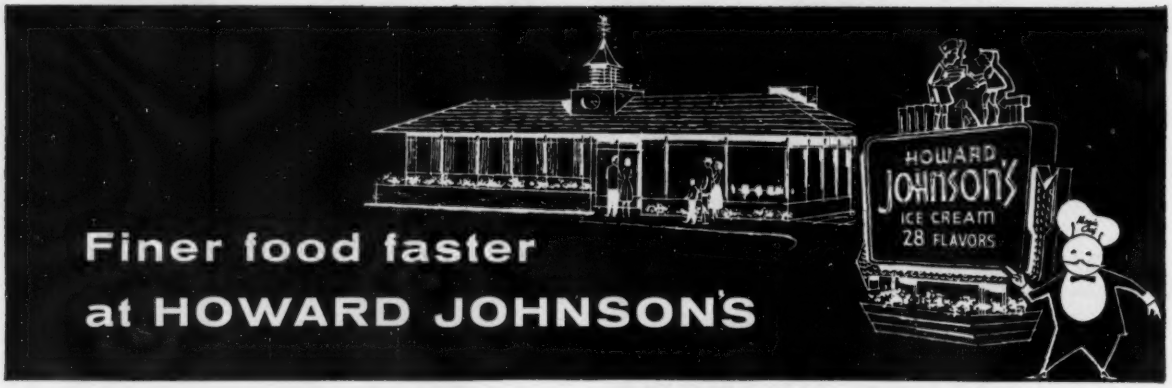

and wherever food is famous . . . with

Magic Chef

Wherever quality food is served in quantity, fine chefs count on Magic Chef. For performance, economy, and profitable operation from cooking to clean-up, the new Magic Chef Cafe Line is today's most modern equipment for smaller commercial kitchens. *NEW* . . . in features and sturdy construction. *THRIFTY* . . . it saves fuel and cleaning time. *DURABLE* . . . its formed steel construction gives maximum strength, longer wear, more dependable performance. *Plus* . . . gleaming stainless steel trim, now *at no extra cost.*

Call your cooking equipment dealer or write Magic Chef, Inc., Commercial Division, 3201 Harvard Avenue, Cleveland 5, Ohio.

The latchstring is out for you at our Booth A-161, National Restaurant Show, Navy Pier, Chicago.

Save Time, Save Costs
with the
MAGIC CHEF
Deep Fat Fryer
Smooth rounded open-vat tank for easier cleaning. Stainless steel drain panel with hi-lo basket racks for "keep-warm" draining. Efficient full 65,000 BTU Burner–faster recovery. Heavy insulation for cooler kitchens. Magic-Lite Automatic Ignition at no extra cost.
For Heavier Cooking Needs Specify Magic Chef
Super Duty Commercial Gas Cooking Equipment

Continued from page 83

A lack of specfic authorization for continuance of the business might well result in the court which has jurisdiction over the administration of the estate ordering immediate liquidation of the buisness.

Authority of executors

In addition to an authorization for the executors to continue the operation of a business, consideration should be given to assigning to the executors specific power to hire managers, agents, consultants, brokers, and accountants. Or if the business is incorporated, the executors should be given power in the will to vote the shares in whatever manner they deem advisable, Moreover, they should be given the authority to select or vote for the appointment of themselves or other persons as managers, officers or directors. It should also be stated in the will that these persons may, at the same time, be officers, directors or employees of a corporate executor, such as a bank or trust company.

The executors, particularly a bank or trust company, should be authorized to lend money to or for the business, and to or for any corporation reperesnting it, in order to assure its uninterrupted profitable operations.

Use of trustees

The state laws of descent and distribution (where there is no will) vary considerably, but in most states the children come in for some portion. However, if the children are minors it will be necessary to have guardians appointed and here again the court may well direct the liquidation of the business interest during the guardianship.

If minors are to inherit, it is often advisable to appoint a trustee under the will to hold and manage the property—at least during the minority of the children. Such a simple trust arrangement will usually prove far more effective and practical than a guardianship. A trust may be less expensive than a guardianship. For example, a guardian must furnish a bond, but a trustee need not do so. A guardian must petition the court (involving legal expense) for authority to act. Trustees' powers eliminate such costs.

Where several children (minors or not), or various other beneficiaries are involved, the best way to assure continued operations without conflict is through the medium of a trust arrangement setup under the will. It can be worked out to guarantee the trustees all the powers and discretion that they may need for the continued operation of the business.

Tax consideration

The relationship of the will and taxes should be clearly understood. A good many small enterprises are owned jointly by husband and wife, father and son, two brothers, or the like. In these cases, the wills of the owners can have a direct bearing on the taxes levied upon the estate and the business. An owner would, therefore, do well to consider taxes in relation to wills and estate planning. It is of course, not within the scope of this aid to analyze the complexities of such tax problems. Nevertheless, one observation can be made: long exeprience and study suggest that the appraisal of estate assets made in connection with the probate of a will is a factor which often is poorly understood.

Most small business owners have various depreciable assets, such as buildings and equipment, which may be held or disposed of according to the provisions of a will. When the property is appraised in connection with the will, there seems frequently to be a desire to get an appraisal "as low as the law permits." Actually, a market-value appraisal should be the objective. The appraisal can have far-reaching effects upon subsequent allowable depreciation, and hence upon the net income and tax structure of a business. Consequently, it is important to obtain a completely fair judement of values.

For example: Take an overall estate of a husband and wife appraised at $120,000. If the husband leaves one-half to his wife (or she already owns one-half) there would be no Federal estate tax on the husband's half of $60,000. Depreciable assets should be appraised right up to fair market values in order to obtain a new adjusted-cost basis. On community property—or so the "marital deduction" portion of separate property—the surviving spouse's portion acquires a new adjusted basis.

Even on estates of husbands and wives up to $600,000, the top Federal estate-tax rate on the husband's half is only 30 percent, which is the same as 15 percent on the whole. It would not take long, under an adjusted depreciation schedule to recover that 15 percent. Moreover, the average estate-tax rate on the decedent's half may prove to be more economical than future capital gains tax.

In addition, when inventories in an estate are appraised at the selling price, this can eliminate ordinary income tax on the operating profit.

Effects of incorporation

All of the foregoing comments on appraisals of assets for Federal estate-tax purposes do *not* apply to corporations. In the case of corporations, only the capital stock itself acquires a new adjusted-cost basis.

On the other hand, the owners of a small business may well want to consider the advantages of incorporation to preserve the uninterrupted operations of the firm after the death of the principal owner. Or if tax factors warrant, the principal owner may direct or authorize his executors to incorporate the business after his death and to distribute the stock to his beneficiaries.

Through properly planned "buy-and-sell agreements" on business interests, to take effect upon the death of the owner, many worthwhile savings in values, time, effort, and tax liabilities may be realized, particularly on incorporated businesses.

Importance of good planning

It is important to allow time for adequate thought and planning on these problems. In addition, it is highly desirable to get the best professional advice obtainable from a lawyer, accountant, and insurance adviser as well as from your banker. Bear in mind that sound and appropriate wills are seldom developed the first time.

However, it is wise to have every will that is prepared properly executed, because each one is better than any former will. In addition, you would do well to make it a habit to revise your will as often as you revise your other insurance coverage. ■

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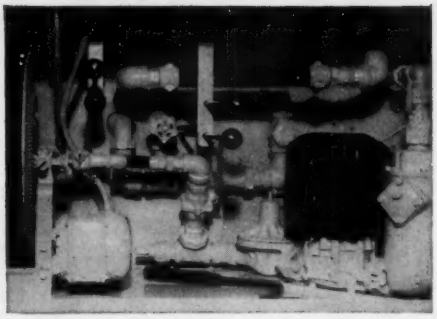
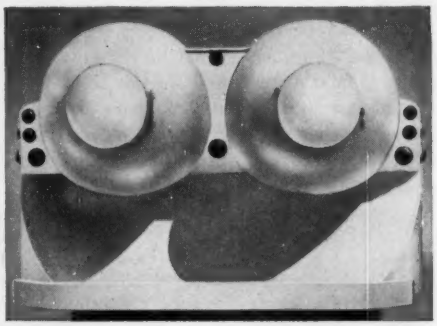
The LPG Tank Truck that *Has Everything!*





Yes, EVERYTHING. Every single feature that bulk plant operators and drivers want—because they actually designed this tank truck! We called on scores of bulk plants, asked questions galore about features wanted (and *not* wanted)—then put your desires into blueprint form, and built this truck.

Before you buy, compare! We welcome your inspection of current production at our New London, Minn. plant. It won't take your good judgment long to decide on the LPG tank truck that *has everything!*

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BALANCED DESIGN for easy operation and driving.
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1011 Electric Bldg.
Houston, Texas

C. HERB KOCH
202 Leggett Bldg.
Midland, Texas

F. S. VICTOR
813 McBirney Bldg., 8 E. 3rd St.
Tulsa, Okla.

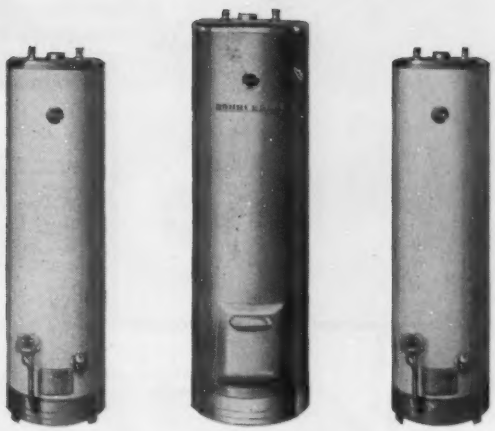


Fig. 2. Large center unit is emphasized.

How to earn more profit from store displays

JUST about the best and cheapest place for a dealer to do a good advertising and selling job is right in his own store. With more and more competition for the buyer's attention and dollars, it is essential that every bit of merchandise be displayed to the best advantage.

After a few moments of study any display can be arranged so that the prospect's attention is caught and centered on the models carrying the highest margin of profit. Window displays first catch the customer's eye and draw him in—floor displays should be created to hold the interest and assist in closing the sale. In small stores where the window and floor displays are one and the same, it pays to favor floor display techniques.

The first principle to remember is emphasis. Crowding a wide variety of items and models into a display only serves to confuse the public and leaves no impression. Pick an item, such as the Mission Doubleglas water heater, that you want to feature then subordinate the other objects in the display to this item. One good way to increase profits is to feature or emphasize only these high profit items.

Emphasis in a display is achieved through levels, areas and positions. A change in levels can be done with wooden blocks or a simple, inexpensive wooden platform. In Fig. 1 the center washer gains more attention than those on left or right. Avoid building the platform so high the appliance looks awkward or unstable.

Another way to get emphasis by levels is to use different sizes of the same appliance. Fig. 2 shows a 30 gal. Doublegas heater between two 20 gal. Crenshaw units. The extra height and diameter of the Doublegas catches the eye and attention of the prospect first.

Through the eye of the observer every display floor has strong and weak areas.

In Fig. 3 the floor areas are numbered by their comparative strength. The center section receives first attention then the buyer's eye moves to the left section and finally to the right area.

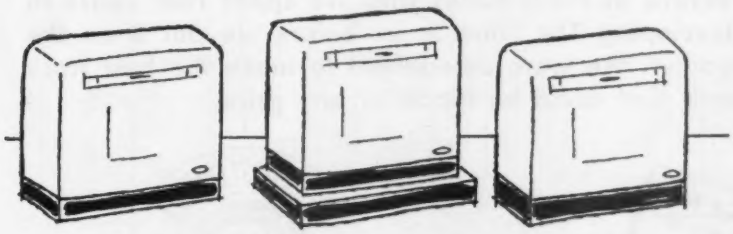
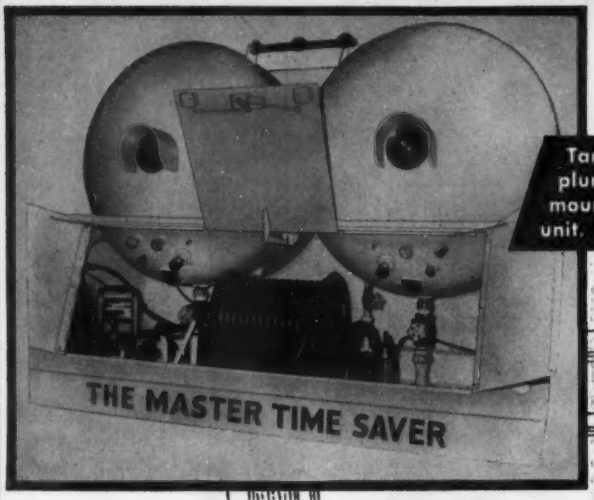


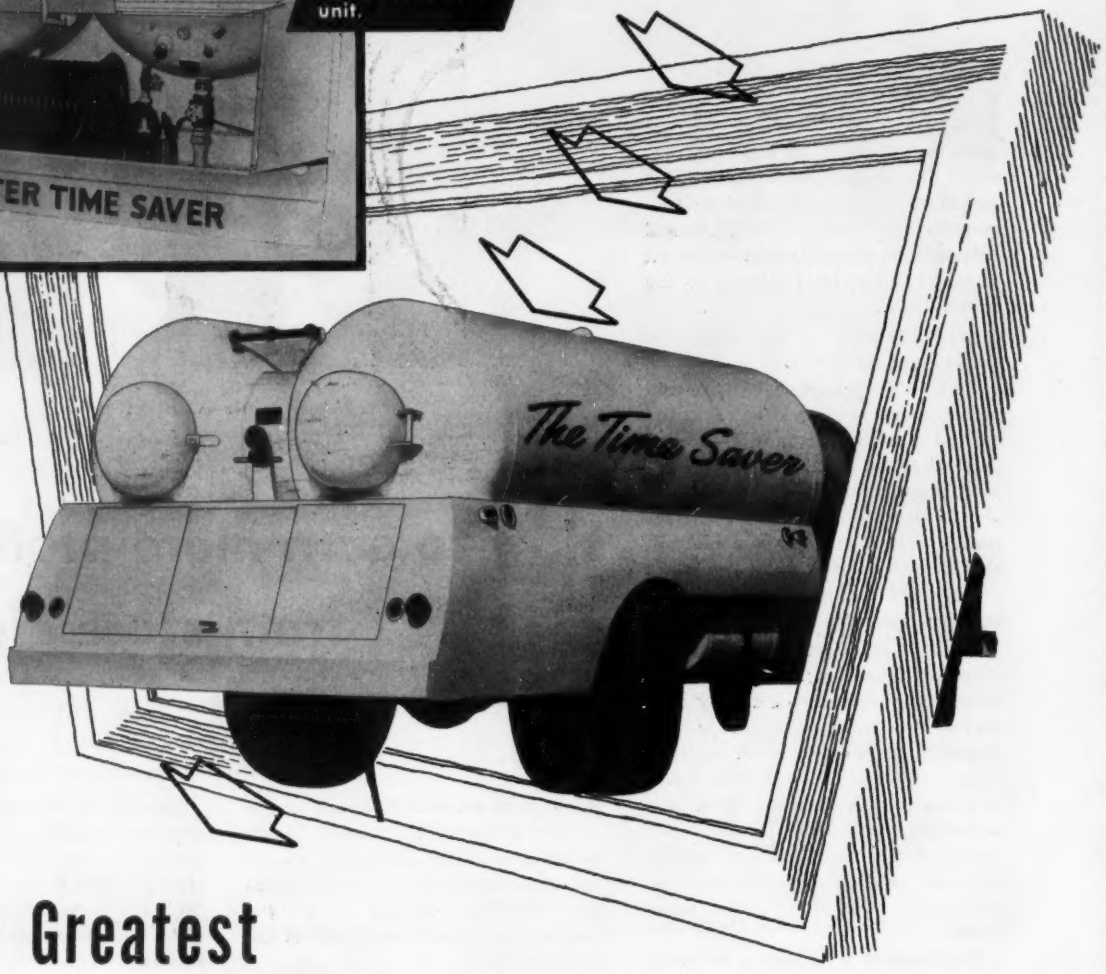
Fig. 1. Elevation used to gain emphasis.

Inside each area there are also good and bad positions. The front part—closest to observer—of area 1 is stronger than the rear part of area 1, etc. This provides an opportunity to give double emphasis to featured models.

Another technique to secure emphasis is the use of position. When three or more units are arranged in a triangle the unit closest to the buyer has the best selling position. (See Fig. 4.) The triangle has many display possibilities and is a form that many dealers have found easy to design and build. Units may be added or subtracted by changing the length of the triangle sides; the point or apex of the triangle can point toward the customer or reversed to the rear; the angle of the point may be varied to make a flat or sharp triangle. Fig. 5 shows the basic triangle with the point or apex away from the buyer and more items added. This triangle reveals another idea. Even though unit 4 is on the left, or strong side, it draws less attention than unit 3 on



Tank, pump and plumbing . . . all mounted as one unit.



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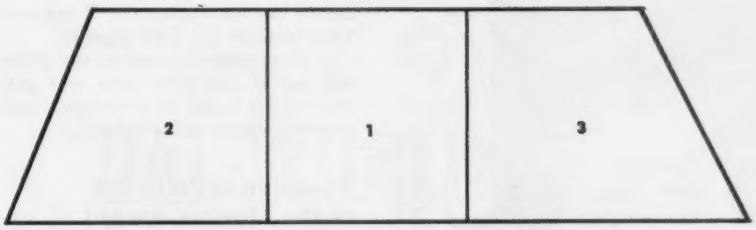


Fig. 3. Path of eye travel is from center to left, to right.

the right side. The reason for this is the forward position of unit 3 overcomes the handicap of right or weak side placement.

A third technique used to win emphasis and attention is the use of space. (See Fig. 6.) When one product is surrounded by a good deal of open space and other products are closely grouped, the product standing alone receives the emphasis. This emphasis can be doubled or tripled by applying the ideas covered so far. Adding the use of platforms and remembering the strength of relative areas gives a featured product real zip.

The maximum use of space can be obtained by devoting an entire display area to a single item. As a rule, this is rather expensive in terms of floor or window footage but an exceptional or news worthy product, such as Mission Doubleglas, might justify such a display.

In window displays balance is one factor that is always pleasing to the eye. Almost everyone has a desire to see items on a level plane. The desire for balance is the impulse that makes a person straighten a picture on the wall or rearrange the pillows on a sofa. In a window display a good way to get balance is to visualize the window as a teeter-totter. A line through the center represents the pivot point. From there on it is a matter of simple mechanics. The weight (mass) of the product displayed and the distance from the center line produce the force to put the teeter-totter in balance or out of balance. (See Fig. 7.)

One trouble with balance is the monotony of displays where every unit is matched by an equal unit on the other side of the center line. To add variety blank spaces may be used to replace some of the units. (See Fig. 8.) The blank spaces also provide a good spot for easel back signs carrying a selling message on the products in the window.

All in all, the use of floor and window displays is limited only by the originality of the dealer once the basic ideas are mastered. Every step taken to focus the prospect's attention and interest on the high profit merchandise means a better chance to make your displays pay off. ■

This article has been reprinted from **The Mission Pilot.**

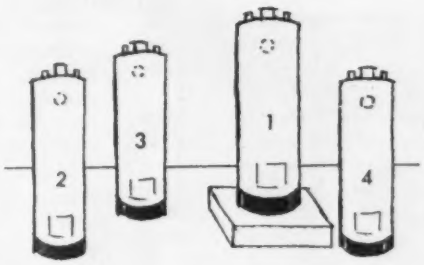


Fig. 6. Here, open space, and area, and levels are used to get dramatic punch for No. 1.

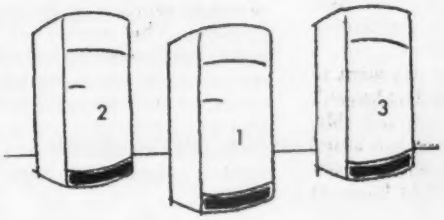


Fig. 4. Forward position is best selling spot.

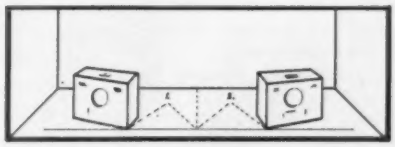


Fig. 7. Identical products equal distance from center line give balance.

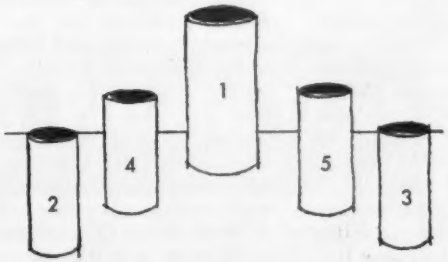


Fig. 5. Basis triangle with point away from buyer. Note additional pieces added.

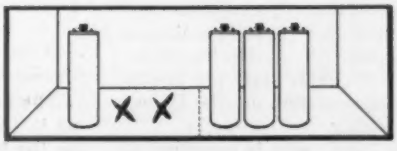
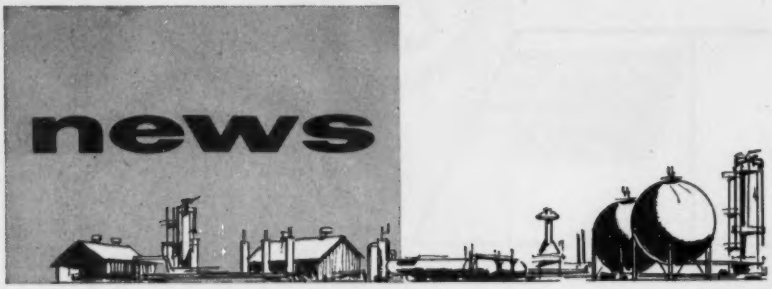


Fig. 8. Two units of space used to give variety and keep balance.



Petrolane aims sights at Pacific NW for expansion

Expansion in the Pacific Northwest by Petrolane Gas Service Inc., during 1955, accounting for 11 of 14 additional sales areas acquired, will continue at a greater pace during 1956, according to the western LPG firm's annual report. Already strong in California, Petrolane has now named the Washington-Oregon-Idaho area as one that presents a lush market for future sales of L. P. gas.

Net income for Petrolane in 1955 was $551,630, an increase of 22 percent over 1954. During the same period, sales increased 11 percent to more than 52 million gal. Increased income was twice that of increased sales.

Total L. P. gas sales for 1955 amounted to $5,719,074 with another $861,516 from sales of appliances, tanks and equipment.

Petrolane listed 630 shareholders at the end of 1955 with a total of 470,000 shares outstanding.

The company, which has 316 employees in the California, Nevada, Idaho, Washington and Oregon areas, serves 37,000 consumer accounts from 52 distributing points.

A policy of amortizing the goodwill of new firms acquired was begun in 1955. When a new company is purchased, its goodwill is amortized over a 10-year period.

The annual report stresses that service is the real product of Petrolane and that better service to the customers is provided through service schools conducted for employees.

GAMA official sees new highs in appliance sales

Appliance sales for the five years ending with 1959 will produce a market for more than 11 billion therms of gas a year, W. F. Rockwell Jr., president of GAMA told the Southern Gas Association at its Dallas, Texas, meeting.

Mr. Rockwell, who is president of Rockwell Manufacturing Co., Pittsburgh, pointed out that appliance and equipment makers are contributing to soaring gas sales through development and promotion of many new and improved products. By 1960, after five busy years of appliance selling, the gas industry will have more than $900 million in added revenue, he said.

Appliance sales during 1956 are expected to set all time figures, especially in gas-fired central heating equipment, automatic water heaters, clothes dryers and unit heaters, Mr. Rockwell told the convention.

Gas ranges, while not reaching record levels, will sell in greater quantities than last year, the GAMA official said, adding that the swift initial success of the built-in range, particularly for new homes, is indicative of "an ever-increasing consumer demand for this type of appliance."

"Increased sales of commercial cooking equipment, direct heating equipment, incinerators and vented recessed wall heaters also are part of the picture," he said.

"Improvements in all these lines, and in others, such as gas air conditioning, have come thick and fast, and our designers are continuing hard at work."

The people served by gas want to use more of it, and those who haven't any yet want to get started, Mr. Rockwell said, adding that this situation offers a challenge such as seldom has been presented in business history.

Construction scheduled for Canadian gas plant

Construction of a multi-million dollar natural gas absorption plant near Fort St. John, British Columbia, for removal of propane, butane and other by-products of natural gasoline, was announced recently by George L. McMahon, president of Pacific Petroleums Ltd.

The plant, which will be completed in 1957, is scheduled for erection on the north bank of the Peace River, a short distance from the Alaska Highway Bridge. It will process natural gas from the Peace River fields before the gas enters the Westcoast Transmission Co. Ltd. pipeline.

A three-stage operation, the plant will scrub and clean raw wet gas, remove the liquid hydrocarbons, and produce elemental sulphur.

Vaughan is recipient of the Hanlon Award

W. H. Vaughan

W. H. Vaughan, manager, gas utilization department, Tide Water Associated Oil Co., Houston, received the highest honor in the natural gasoline industry and one of the ranking awards of the petroleum industry—the Hanlon Award. The ceremony took place at the 35th annual convention of the Natural Gasoline Association of America on April 12.

Mr. Vaughan is the 20th recipient of the award which is conferred annually by the NGAA for outstanding service to the natural gasoline industry. Donor of the award is E. I. Hanlon, chairman of the board, National Bank of Tulsa.

The citation presented by A. H. Weil, NGAA president, read in part: "We are recognizing the results of this man's studies of high pressure, two-phase gas streams. His work, experimentation and original thinking in this field mark him as one of the earliest pioneers in finding a practical solution to the gas cycling problem. The success of his first plant, the forerunner of many similar plants to come, proved to other operators and to regulatory bodies that gas-condensate wells could be produced economically and thus, the cycling industry was born."

Ability of automatic gas water heaters proved

A recent dishwashing demonstration in Chicago for restaurant operators, architects and food service engineers, proved the ability of automatic gas water heaters to maintain a required constant temperature.

Vital roles in the demonstration were played by a geiger counter, radio-active material and two automatic storage gas water heaters, one a Ruud-Monel Sanimaster, Model MST 80-80, and the other made by A. O. Smith Manufacturing Co.

The dishes were coated with the

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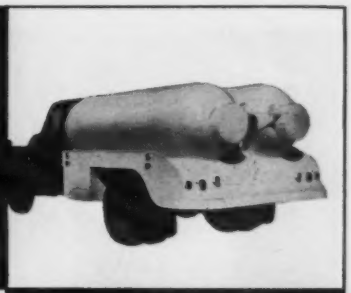
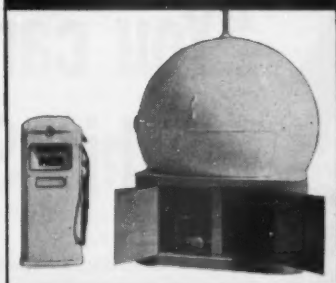


STANDARD SINGLE-BARREL DELIVERY WITH DUAL AXLE. 2800 to 4200 gallon capacity. Tailored to fit 2 to 5-ton trucks. Engineered to carry High Net Payloads in terrain where the going's rough.

DELUXE "STEP-DOWN" SINGLE-BARREL TRANSPORT. 200 to 250 gallons more capacity with a list of features that add up to more economy, more profit, more safety.



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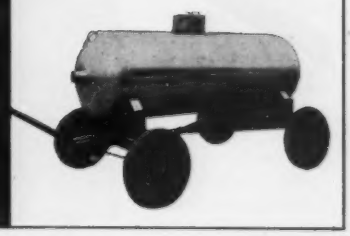

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radio-active material and then washed in low temperature water in a mechanical spray type dishwashing machine. The geiger counter clicked vigorously, showing that the radio-active material was still clinging to the dishes.

Then the dishes were recoated with the radio-active material and washed in the identical machine for which the National Sanitation Foundation recommends a temperature of 140° F. Temperature of the "sanitizing" rinse water was 180° F. The proper water temperature, maintained by the Ruud and the Smith gas water heaters, resulted in a through cleansing of the dishes and silence from the geiger counter, proving that the radio-active material had been completely separated from the dishes.

The demonstration, sponsored by the Peoples Gas, Light & Coke Co. of Chicago, was conducted by the National Sanitation Foundation. Directing the exhibit were James J. Condon, manager of the commercial sales department of Peoples, and Walter F. Snyder, NSF managing director.

Whirlpool-Seeger displays at International Fair

Part of a display by Whirlpool-Seeger Corp, at the International Trade Fair, Milan, Italy, April 12-17, was the use of radioactive isotopes for dramatically demonstrating the cleaning effectiveness of RCA Whirlpool automatic washers.

The company was requested by the U. S. Department of Commerce to take part in the American exhibit, whose theme was "Atomic Energy in Industry, Medicine, and Agriculture."

Illinois tops nation in 1955 gas dryer purchases

Illinois families bought more gas clothes dryers during 1955 than any other state, according to the American Home Laundry Manufacturers Association. Sixteen percent of all units sold or 53,390 gas dryers were purchased by that state.

Michigan ranked second with 48,993 and California was third with purchases of 37,937 gas clothes dryers.

Ohio was first in purchasing electric dryers with Pennsylvania second and California again third.

Sales of all automatic clothes dryers during the first quarter of 1956 were 27 percent more than for the same period in 1955, the Association reported.

Demonstrations by instructors and problems solving sessions in which dealer-trainees are "on their own" are important parts of the Coleman training program. This group is learning how to run chilled water lines from a remote condensing unit to a plenum coil.

Coleman marks tenth year of Training Institute

The Coleman Heating & Air Conditioning Institute of Wichita, Kan., is marking its tenth year by an expanded program of dealer training.

The Institute was established in 1946 as a year-around training addition to the manufacturing operations of the Coleman Co. Inc., which played host during the week of April 16 to a group of dealers from Southern states in the first week-long school of its annual "Homecoming" training program. A new group of dealers, with about 50 in each class, will come to the school each week until July 1.

W. A. Hattan, Coleman training director, is in charge of the program and instructors are from the staff of the manufacturer's sales engineering department under the direction of Jack W. Kice.

The Institute, housed in its own building near Coleman's main offices, laboratories, and downtown plant, has 9600 sq ft of floor space and contains approximately $70,000 worth of equipment for training in installation and servicing of the company's new line of Blend-Air home heating and air conditioning systems. There is also equipment for training in electrical work and basic refrigeration techniques.

Emphasis during the first several weeks of the Homecoming program, when dealers from the warmer states are attending, is on summer air conditioning. Dealers at later schools will be from the North and will have the option of specializing in either air conditioning or heating.

The dealer's expenses are borne jointly by the company and its distributors, who select the dealers to attend.

Training sessions at the Institute began in March with schools for the company's own field service engineers, and were followed by others for distributors' application, service engineers, and sales personnel.

For the benefit of dealers who are unable to come to Wichita, the Coleman field engineers are now holding a series of evening sessions to carry the company's educational program to dealers in all the distributors' territories. As well as models of new equipment, special training aids in use include sound-slide films, charts and manuals.

After they themselves have been instructed, the distributors' engineers will continue local training meetings until all Coleman dealers have had an opportunity to learn current technical information.

Hermann Paris opens business broker offices

Hermann Paris

Formerly president of the Georgia Butane Gas Co., Sandersville, Ga., Hermann Paris has opened offices as a business broker in Atlanta. Mr. Paris' new activity will be concerned with buying and selling businesses of various types all over the country.

In 1952, Mr. Paris was instrumental in forming Consolidated Gas Corp., Atlanta, which consisted of Georgia Automatic Gas Co. and four other L. P. gas dealers in Georgia. He headed Consolidated as president and chairman of the board until it was

Continued on page 107

QUALITY PRODUCTS

JOHN WOOD

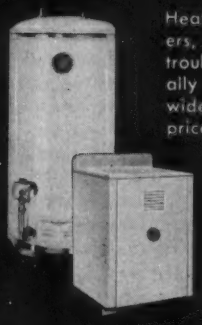
SINCE 1867

For QUALITY and SERVICE

Glass-lined or Galvanized

JOHN WOOD

JOHN WOOD Automatic Gas Water Heaters are highest-quality heaters, known for their dependable, trouble-free performance. Nationally advertised. Fully warranted. A wide variety of sizes, models, and prices to meet any sales situation.



JOHN WOOD

AUTOMATIC Gas WATER HEATERS

Made and warranted by one of the country's oldest, most reliable water heater manufacturers. Conshohocken, Penna. and Chicago, Ill. Approved by the American Gas Association and endorsed by Mrs. America®.

More Sales than Ever

with Colorful New

White

WATER-HOTTERS

Automatic Water Heaters For LP-Gas

Dealers pile up dollars with the dramatic new fashion-favorite in water heaters . . . the glamorous *White*. Shimmering turquoise accents its gleaming white enamel finish, high-lighted by glowing copper trim. Since its introduction a few months ago, sales records have been shattered . . . dealer-profits have soared to new highs.

Supported by outstanding national advertising and a 5-Star Program that builds business soundly and *fast*, *White* is for YOU. Write for *White's* Proved Profit story . . . NOW!

WHITE PRODUCTS CORPORATION, Middleville, Michigan

Water Heating Specialists Since 1930 • Div. of Lamb Industries, Inc.

WHAT'S NEW IN PRODUCTS AND TRADE LITERATURE

For further information on items reviewed in this section use the convenient post-paid Readers' Service Cards on pages 103, 104

Space heaters

Featuring modern TV styling, four new space heaters comprise the Magic Chef gas console heater line. It gives the new heaters the appearance of television sets. With this new design, the heaters can become an integrated part of a home's furnishings, blending with sofas, chairs and tables.

Description: A new control package will fit any of the four heaters. All can operate on natural, manufactured or L. P. gas. All are vented.

All are furnished in a two-tone autumn bronze color. Two models have a desert tan door panel.

Features claimed: Using an old principle, radiant heat trays are partially directed at the hearth extension in a home. This extension acts as a radiant reflector deflecting the rays outward into the room. Heat rays from the upper part of the heater are directed at the floor, thus providing a "twin-directional" radiation for more complete heat distribution.

An unusual fan flame burner in all models doubles the heating surface. This just about doubles the radiant heat per fuel dollar. Better flame control is obtained through thicker metal in the burner crown plus a larger air-mixing plate and primary air-mixing chamber.

Magic Chef

Circle **1** *on Readers' Service Card*

■

Private Line radiophone

Model: Private Line

Motorola has announced a private line radiophone claimed to utilize an entirely new circuitry concept to effectively provide private interference-free mobile communications.

Features claimed: The Private Line is designed specifically to maximize communications efficiency under congested channel conditions, and to eliminate operator fatigue, missed and misunderstood messages, and passenger annoyance. It employs a continuous, inaudible subcarrier tone on the transmitted carrier. The coded signal received operates an exclusive tone-coded receiver squelch circuit. Squelch sensitivity is automatically and electronically maintained, assuring maximum communications range at all times.

Elimination of the traditional manual squelch control prevents desensitization of the receiver by careless or intentional misadjustment. Interfering signals cannot "trip" or "lock-in" the squelch circuit since continuous presence of the properly coded carrier is required to keep the speaker unmuted.

Motorola Communications & Electronics Inc.

Circle **2** *on Readers' Service Card*

■

Self-contained tachometer

A tachometer requiring no sending units, switches or cables, in use on racing cars for some time, is now being introduced for use on L. P. gas bulk trucks. Developed by Keltronic Inc., the instrument requires only

For further information on these products use Readers' Service Cards on pages 103, 104

an electrical connection to the ignition system to make it work.

Description: The unit is completely self-contained and has a built-in voltage regulator. It is equipped for battery ignition or magneto and can be used on 6 or 12 volt systems. RPM ranges available are 0-2000, 0-4000, 0-6000 and 0-8000.

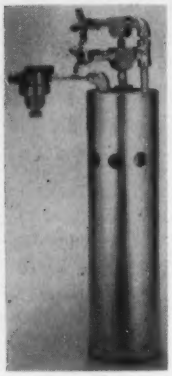
Features claimed: No loss of power, simple installation with no special tools needed, full scale accuracy not affected by length of leads or direction of engine rotation, instantaneous reading with no needle oscillation.

Offenhauser Equipment Corp.

Circle 3 on Readers' Service Card

■

Liquid burner



Model: LB-50

Ransome Co. has added another self-vaporizing burner to its line.

This LB-50 burner is usually equipped with a regulator so that a uniform operating pressure can be maintained regardless of the fluctuating pressure in the fuel tank.

Description: 24 in. overall in length, weight 30 lb and maximum capacity 5,000,000 Btu per hr.

Features claimed: The LB-50 has a low turn-down of 750,000 Btu per hr and simple and effective means for controlling the vapor temperature. There are no copper tubing lines which might easily be broken by contact or by continued adjustment flexing, plus elimination of critical welds. Accessibility of heat transfer members provides easy replacements and servicing if required.

Ransome Co.

Circle 4 on Readers' Service Card

■

Hydramotor valves

Availability of a new HO series of hydramotor valves has been announced by General Controls Co.

Description: Smaller in size and capacities, generally, than the standard H-1, H-2, H-3 hydramotor series, these valves are adaptable to a widely diversified group of commercial and light industrial uses, to provide on-off control with tight shut-off of gas, oil, liquids and steam. They are suited for zone control in heating and air conditioning systems, and for hot and chilled water applications. They are also used in controlling gas in industrial burner installations where close temperature control is required.

HO valves provide for remote control in response to thermostats, limit or operating controls, remote switches or paralleling with motor driven burners, fans, etc.

General Controls Co.

Circle 5 on Readers' Service Card

■

Unit heaters

Completely new enclosure styling, advance burner and heater exchanger design, light weight and a wider range of sizes are among the features offered in the new line of gas-fired unit heaters now being made by Modine Manufacturing Co.

Description: Modern lines and curves are employed to eliminate boxlike appearance. Finished in soft, gray-green baked enamel, the use of chrome for medallion, diverter grilles and signature panel further accent the styling of the new line.

Features claimed: Stainless steel burners provide maximum resistance to rust and corrosion. Burner ports are sharp and resist lodging of dirt or scale, making them self-cleaning.

Heat exchangers are available in either stainless or aluminized steel. Each exchanger tube is individually and directly fired with a flame that extends continuously from front to rear to increase radiant heat absorption and to distribute heat more uniformly throughout the length of the tube. Combustion air inlets are located directly beneath each tube for greater efficiency and to minimize flame disturbance.

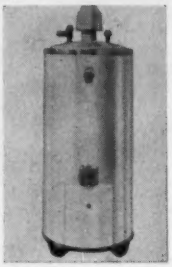
Weights of the eight models available range from 35 lb for the 25,000 Btu model to 292 lb for the 310,000 Btu unit.

Modine Manufacturing Co.

Circle 6 on Readers' Service Card

■

Water heater



Model:
REX XXLR-40

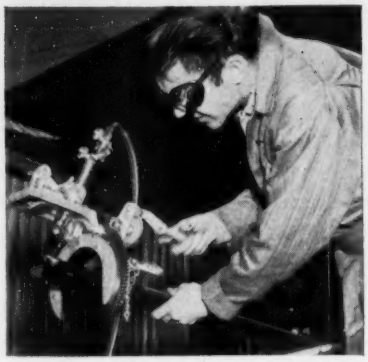
A new line of automatic gas water heaters is announced by The Cleveland Heater Co.

Description: In honor of the company's 50th year of operation, the water heaters will be named "Gold Seal" and will be trimmed in gold, will have a gold finished thermostatic control, located outside the jacket for convenience, a stainless steel pilot and an improved cleanout hole. It has a recovery rate of 44.5 gal. per hr at 100° rise, and an external type flue.

The Cleveland Heater Co.

Circle 7 on Readers' Service Card

■



Flame cutting, beveling machine

Model: O

H & M Pipe Beveling Machine Co. has introduced a portable flame cutting and beveling machine for small-diameter pipe, 1½ to 4 in. The new unit is expected to have wide application in many industries, expecially where the fabrication and use of small-diameter pipe is an important factor.

Description: The completely portable model, weighing 7½ lb, employs the same split gear horseshoe principle as the company's larger units, allows the operator to place the ma-

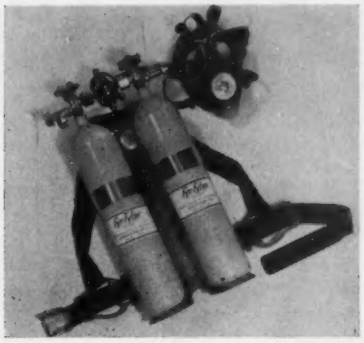
For further information on these products use Readers' Service Cards on pages 103, 104

chine on continuous pieces of pipe. A quick-operating, specially designed boomer strap speeds up the process of changing the machine from one piece of pipe to another. Changing the units from one size of pipe to another is a matter of replacing adapters, properly identified for the various pipe sizes.

H & M Pipe Beveling Machine Co.

*Circle **8** on Readers' Service Card*

■



Air mask

An air mask that weighs only 35 lb and provides one-third more working time has been developed by Fyr-Fyter Co.

Description: The mask is designed for use in the petroleum and other industries and in fire fighting, rescue, tunnel and sewer work, among many other applications where gas, fire and lack of oxygen are hazards.

Fyr-Fyter air masks are equipped with two cylinders, each holding 26 cu ft of air.

Features claimed: The Fyr-Fyter air mask protects against a variety of gases. Included are carbon monoxide, hydrogen sulphide, aromatic hydro-carbons, carbon dioxide, chlorine, ammonia, hydrofluoric acid, phosgene and aldhydes gases and gasoline, benzine, naphtha vapors.

Fyr-Fyter Co.

*Circle **9** on Readers' Service Card*

■

Base station

Model: MCA 155-B

A new desk-top model base station, featuring finger-tip control without using control lines, has been added to the two-way radio communications equipment of Allen B. Du Mont Laboratories Inc.

Description: 8½ in. high; 23½ in. wide; 18 in. deep; and weight approximately 50 lb. It comes in Du Mont standard gray-green baked enamel hammertone finish, with a full line of accessories. These include digital clock, dual frequency transmitter and/or receiver, and foot switch.

Features claimed: Designed to meet requirements of dispatchers, foremen, and the like, to provide the complete facilities of a base station with the convenience and reliability of a desk telephone. A front-panel meter checks complete performance. Using the most modern circuitry and design, the MCA 155-B combines high performance and accessability in a compact, attractive unit.

The frequency range is a 25-54 mc, 40 watts minimum output. The same type base station is also available for 144-174 mc as the MCA-355-B and 450-470 mc as the MCA 455-B.

Allen B. Du Mont Laboratories, Inc.

*Circle **10** on Readers' Service Card*

■

40-in. range

Model: M648

Three fully automatic CP ranges head the Perfection line for 1956, composed of 40-in., 36-in. and 30-in. widths, of which the 40-in. is Model M 648.

Description: The 40-in. model has a triple-duty cooking top which has a center fifth burner that also serves as a griddle, warming plate or work area. This fifth burner has the new thermostatic control that automatically regulates the flame so that foods cannot burn, scorch or boil over. The other surface burners include two giant and two standard-size Harper Alltro "Center-Simmer" burners with instant-lighting Micro-lite pilots.

Features claimed: The giant-size oven, big enough to roast a 40-lb turkey, has an instant-lighting "Mini-Pilot" with 100 percent safety control. This oven has a "Tele-Vue" window with an oven light so that foods may be viewed while cooking without opening the door and interrupting the cooking cycle, and it has the waist-high, swing-out smokeless broiler, also equipped with "Mini-Pilot" and 100 percent safety control.

Perfection Industries.

*Circle **11** on Readers' Service Card*

■

Bathroom heater

Model: "Bathmaster"

Different in many ways, this new, low priced Bathmaster gas heater (only 10½ in. x 7½ in. in size) will quickly heat the average bathroom to 80° F in zero weather, according to the manufacturer.

Description: Its new and original "barrel" design, a departure from conventional styles, provides maximum air circulation to warm the room faster. Choice of different color bands enables the housekeeper to readily match any room decor. Design also permits placing utensil on top to heat water with no danger of snuffing out flame. And its white, all-enamel finish is easily cleaned. Separate orifices furnished with heater make it equally suitable for natural gas or LPG.

Jackes-Evans Manufacturing Co.

*Circle **12** on Readers' Service Card*

■

Expansion union

A one-piece sliding sleeve expansion union that compensates for conduit which has been cut too short, and at the same time eliminates the need for springing conduit to one side while installation of the union

is made, has been introduced by Crouse-Hinds Co.

Description: Made in standard and extra long lengths, these condulets are smaller in diameter than conventional unions. Factory assembled as a one-piece union, it consists of two cylinders, one fitting inside the other. The longer union expands to compensate for errors in cutting conduit too short, and can thus be used as an expansion fitting.

Crouse-Hinds Co.

*Circle **13** on Readers' Service Card*

■

Odorant tester

The Davis "Odortester," a new battery-operated instrument for the determination of odorant in natural and liquid propane gases, has been developed and is now being marketed by Davis Emergency Equipment Co. Inc.

Description: This equipment was designed to fill a distinct need in the gas industry. While the proper ratio of odorant to gas is known, it is difficult in the field to ascertain the odor threshold, or the lowest concentration of gas that can be detected easily.

The portable Odortester is reported to do this job quickly and simply. No conversion or calibration curves are required. The meter registers directly in terms of percent gas by volume. The instrument operates on the same principle, and uses the same Wheatstone Bridge filaments as the Davis "Vapotester."

Interested dealers can obtain descriptive literature.

Davis Instruments Inc.

*Circle **14** on Readers' Service Card*

■

Domestic range

The newest and most interesting innovation in the 1956 Gaffers & Sattler kitchen range is the "Oven-Sentinel" which times and automatically shuts off the oven when the roast is done.

Description: Simple to operate, this roasting control eliminates the necessity of figuring the weight of a roast and how many minutes per pound it should remain in the oven. Instead, the dial is set to the way one wants the meat or fowl cooked, as rare, medium, well done, or any point in between, and when the meat reaches that point the oven turns off and a signal light so informs the cook.

This thermostat has been developed by Gaffers & Sattler in conjunction with General Controls Co.

Utility Appliance Corp.

*Circle **15** on Readers' Service Card*

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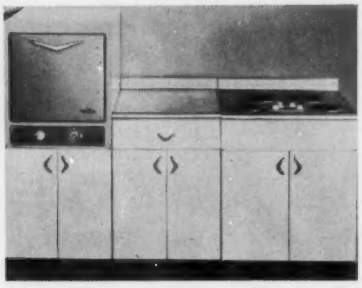

Built-in range

Description: Stiglitz Corp.'s 1956 line of built-in cooking equipment features an Infra-Aire oven with separate safety pilots for broil and bake. The broiler burner has a nickel and chrome wire grid, which, upon contact with the gas flame, becomes infra red, distributing heat evenly over the broiling area.

Features claimed: The Infra-Aire gas oven provides completely automatic baking and comes equipped with clock, signal timer, and automatic temperature control. Selector valves for bake or broil supply an additional safety feature.

The new units are available with either solid or window doors and oven lights. Oven interior is 17 in. high, 18 in. wide, and 19 in. deep, with all interior equipment removable for easy cleaning.

Stiglitz Corp.

*Circle **16** on Readers' Service Card*

Trade Literature

L. P. gas systems bulletin

A new bulletin released by Pressed Steel Tank Co., of Milwaukee, describes the full line of Hackney L. P. gas systems for aboveground or underground installation.

The bulletin features four models of the Hackney shoulder-connected systems, in capacities of 499, 640, 995 and 1135 gal. Described also are Hackney end-connected, top-connected and underground systems in capacities from 250 to 3360 gal.

Pressed Steel Tank Co.

*Circle **17** on Readers' Service Card*

■

Plumbing brochure

An educational brochure on the use of L. P. gas in the plumbing trade has been prepared by Mutual Liquid Gas Equipment Co., titled "Are You Plumbing the Modern Way with LP-Gas?"

This brochure illustrates fully the major jobs the plumber does with L. P. gas, including lead-melting, burning-out joints, and streamline soldering. It further illustrates, through the use of photographs taken of plumbers on the job, how LPG can be used to do his work easier, faster, cleaner, and cheaper. It also includes a full description of the Mutual equipment used by plumbers to do the basic jobs.

Mutual Liquid Gas Equipment Co.

*Circle **18** on Readers' Service Card*

■

Truck service costs book

Following a series of passenger car service guides, Ingersoll-Rand has now released a Truck Service Guide. This 32-page bulletin gives the truck service shop accurate time and cost comparisons in doing a number of common service jobs by hand and with air and electric power tools called "Impactools." The studies were made in the field by Ingersoll-Rand engineers.

With this guide, a truck service shop can evaluate more accurately its present service equipment, and determine in advance the actual saving that it may expect through using Ingersoll-Rand air and electric Impactools.

Field applications showing the advantages of power tools are also given for metal cutting with a power-chisel called the "Impacutter" and for removal of tier casings with air-powered tire tools. Air starting motors for starting service on truck engines are also covered.

Ingersoll-Rand

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June 1956

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BUTANE-PROPANE NEWS
198 SOUTH ALVARADO ST.
LOS ANGELES 57, CALIF.

KEEP UP WITH WHAT'S NEW

in Products, Literature and Service

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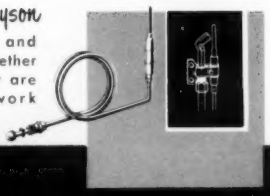
1905 AN ORIGINAL ROBERTSHAW
WATER HEATER CONTROL
MORE THAN HALF A CENTURY OF PROGRESS
400
1956 AMERICA'S FINEST
WATER HEATER CONTROL
HOT NORMAL WARM
UNITROL 400
ROBERTSHAW GRAYSON
Robertshaw-Grayson UNITROL®
GAS WATER HEATER CONTROLS
America's most beautiful water heater controls BY WORLD'S LARGEST MANUFACTURER

Model 400 For deluxe heater. Gold or silver finish. 90,000 BTU capacity.

Model 200 Wide color selection. For exposed or concealed application.

Model 110 Packed with standard UNITROL features. One-type design and finish for volume production and low cost.

Robertshaw-Grayson thermocouples and pilots belong together — because they are designed to work together.



SELECT THE CONTROLS THAT HELP YOU SELL

200

110

400

A COMPLETE LINE THAT OFFERS YOU...

- STANDARDIZED PARTS Interchangeable magnet assemblies, pilot filters and main valves.
- REDUCED INVENTORIES Fewer field service replacement parts.
- STANDARDIZED CONNECTIONS Standard manifold piping, tubes and shanks, pilots and thermocouples. Unitrol air-gap construction throughout.
- FLEXIBILITY OF CHOICE AND ECONOMIES OF MASS PRODUCTION

100% Gas Shut-Off Throughout The Line.

All Adjustments Accessible From Front.

Robertshaw-Grayson **UNITROL**®

GAS WATER HEATER CONTROLS

Robertshaw-Fulton CONTROLS COMPANY

Grayson Controls Division

Long Beach, California

Robertshaw-Fulton Controls Company (Canada) Ltd., Toronto Robertshaw-Fulton Controls (Australia) Pty., Limited, Burwood, N. S. W.

Continued from page 97

sold to the General Gas Corp. in 1954.

Because of his long experience with L. P. gas, Mr. Paris feels that he is particularly qualified to help his former associates in the industry with any problems they may encounter in selling their businesses or expanding through the purchase of new firms.

Mr. Paris' new offices are located at 1114 First National Bank Bldg., Atlanta 3.

Rheemaire is Rheem's most successful product

Rheemaire central air conditioning systems for homes has exceeded the record of success of any product previously brought out by Rheem Manufacturing Co., according to Vearl J. Heinis, general manager of the plumbing, heating and air conditioning division.

"In every way, interest in Rheemaire has excelled our most optimistic estimates. Remembering that Rheemaire was introduced at a Rheem press preview in January, it is difficult to realize that leaders in the heating and air conditioning trades from coast to coast have visualized the potentials we have seen in the product," Mr. Heinis said.

Through its revolutionary design, Rheemaire offers as much as 95 per cent more cooling per unit of horsepower, with operating economics of 30 to 50 percent. To assure performance at rated capacity, a bond of $1000 is presented to each owner of a Rheemaire system.

Distribution policies on Rheemaire call for a concentration of the company's efforts with carefully selected wholesalers and dealers.

Gas furnace shipments still on the upswing

According to GAMA all types of gas-fired central heating equipment were shipped in substantially greater quantities during the first quarter of this year than in the corresponding period of record-breaking 1955.

Statistics show that three-months shipments of gas furnaces of the forced warm air and gravity types totalled 168,900, up 11 percent from the 152,100 in the 1955 quarter. The March total of 60,400 was 12.5 percent over the corresponding month of last year.

Gas-fired boilers scored a 37.9 percent gain with a three-month total of 17,100. For March the figure, 6800, was up 36 percent over the 1955 month.

Conversion burners, used in changing existing heating systems from other fuels to gas, accounted for 23,100 unit shipments in the quarter and 8400 in March. These totals represented gains of 21.6 and 13.5 percent, respectively over the corresponding 1955 figures.

Petrolane acquires an Oregon corporation

At the Petrolane Gas Service Inc. annual meeting of stockholders, P. E. Foote, president, announced the acquisition, effective May 1, of Gas Heat of Enterprise Inc., an Oregon corporation, located in the northeast corner of the state, with headquarters at Enterprise. At the same time he announced acquisition of the 20 percent minority interest in Washoe Propane Gas Co., Nevada, making the company a 100 percent owned subsidiary.

According to Mr. Foote, Petrolane is particularly pleased to make the Enterprise acquisition, since it "fills the gap" which existed between Petrolane Gas Service operation at Baker and La Grande in Oregon, and the operations at Grangeville and Lewiston in Idaho.

R. J. Munzer, executive vice president and general manager, stated that in taking over the Gas Heat operation, Petrolane will acquire a retail appliance store, an 18,000-gal. storage plant, railroad spur, delivery trucks and other inventory items.

The Enterprise acquisition will operate as a district office under the supervision of Charles Lewis Jr., division manager, eastern Oregon division. Les Jacober, formerly with Petrolane at Lewiston, Idaho, will manage the plant. The enterprise office which will operate under the name of Petrolane Gas Service is located at 112 So. River St.

Huss and Olson open National Gas Co. Inc.

Construction is completed on the new plant for the National Gas Co. Inc., 10th and Green Bay Sts., La Crosse, Wisc., where liquefied petroleum gas will be dispensed.

Owners of the newly formed firm are Conrad J. Olson and Paul H. Huss. Offices of the firm are located at the plant of the National Oil Co., South and West Aves.

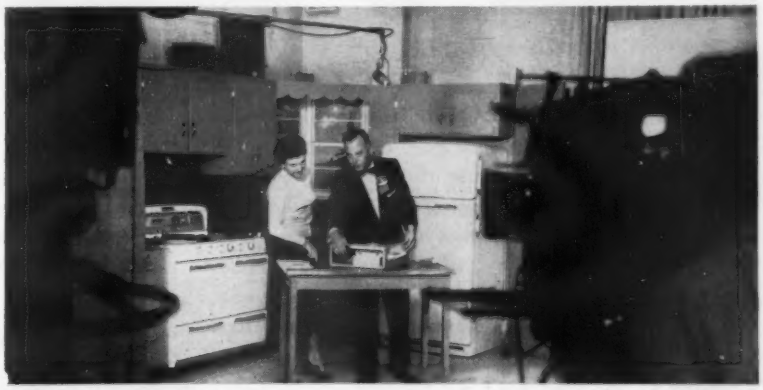
Mr. Olson, owner of the National Oil Co., has been in the petroleum business since 1912 and Mr. Huss had been in the appliance business for 15 years.

Mr. Huss and Mr. Olson announced jointly that the Phillips Petroleum Co., Bartlesville, Okla., has arranged for an exclusive territory in and around La Crosse for distribution of the L. P. gas.

Permaglas production boosted to new high

Permaglas Division, A. O. Smith Corp. boosted its first quarter 1956 shipments of Permaglas domestic water heaters 32 percent over the first quarter in 1955, it was announced recently. The raise was due in part to March production, which reached an all-time high.

J. H. Brinker, Permaglas general manager, reported that January was 32 percent ahead and March 23.4 percent higher, with the biggest relative gain in February, when shipments of the Permaglas units rose



C. J. McAllister, president of LPGA, shows TV viewers of "Memo for Milady," WAGA-TV, Atlanta, how the new automatic top burner works. Using a salesman's demonstration unit supplied with propane from a small replaceable cylinder contained in the demonstrator case, Mr. McAllister baked a pineapple upside down cake for the TV audience.

Gas and Electric Models Available

Stop wasting expensive cooking fat! Don't let old fashioned, low performance equipment burn up profits. Users of new Starmaster fryers report terrific savings in operating costs. They like Starmaster frying speed. They like the beautiful, modern, Starmaster look. They like the compact, space-saving Starmaster size . . . the quality construction in smart, easy-to-clean stainless steel and chrome. See for yourself. Visit your dealer. Compare Starmaster design and high performance features with any other. Then compare the price! You'll find Starmaster this year's greatest fryer value. Available in floor and counter models. Don't wait. Save money you are spending on operating costs that could be profit. See the complete Starmaster Matched Line. There is a Starmaster unit for every counter cooking need.

STAR

STAR MANUFACTURING COMPANY • ST. LOUIS 20, MO. • Division of Hercules Galion Products, Inc.

Canadian Distributor: CROWN ELECTRICAL MFG., LTD. • BRANTFORD, ONTARIO, CANADA

44.3 percent over the same month in the previous year.

An important part in the high volume of sales was played by a nationwide promotion tied to the production of the three-millionth glass-lined water heater by A. O. Smith on February 14.

United Petroleum buys Gopher Gas Co., Minn.

The purchase of Gopher Gas Co., Brainerd, Minn., by United Petroleum Gas Co., Minneapolis, is announced by Frank T. Carpenter, president of United.

The purchase, which was effective April 1, will increase United's retail holdings in the upper midwest to nine bulk plants.

Gopher Gas has supplied Brainerd and the surrounding resort area with bulk and bottled gas service for eight years. No change in personnel is anticipated and the new company will be operated in conjunction with the bulk plants of Consumers Gas Co. as a division of United.

Kengas, Inc. acquires Seventh LPG operation

Kengas, Inc., a wholly owned subsidiary of Western Kentucky Gas Co., Owensboro, has purchased the assets of Kentucky Gas Service Inc., an L. P. gas firm which operates in the greater Louisville area with bulk plant near Jeffersontown.

The new acquisition is Kengas' seventh since it became active last June. Other plants are located in Paducah, Murray, Marion, Henderson, Owensboro and Madisonville.

E. C. Clarke advanced by Suburban Gas Service

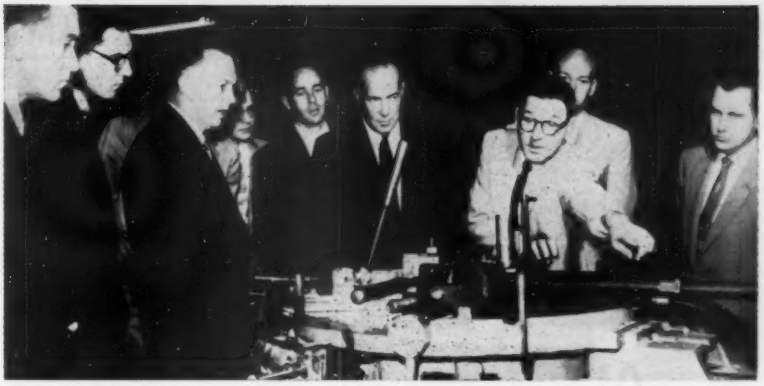
E. C. Clarke

Suburban Gas Service, Upland, Calif., has appointed E. C. Clarke, formerly sales manager, to the position of assistant to the president according to W. R. Sidenfaden, president.

. Mr. Clarke has served on the executive staff of Suburban Gas for the past eight years and has directed sales activities during a large part of this period.

He was active in the Atomic Energy Commission tests at Las Vegas a year ago, during which time he represented Suburban Gas and the LPGA in demonstrating the feasibility of L. P. gas as a practical emergency fuel.

Mr. Clarke has also been instrumental in the promotion of LPG for internal combustion engines and weed burning throughout the West in addition to developing sales for domestic gas. In his new position he will assist Mr. Sidenfaden in the administration and management of Suburban's organization.



A new tube forming machine recently installed in the Aero-Coupling Corp. plant. Pointing out the principles of its operation is Armand Lague, superintendent of operations. Others, left to right, are: Jack Galvin, Pat Lynch, Chuck Sawhill, Dick Mosher, Chuck Zoelck, Ted Mosher, Forrest Hinkley, general manager of Aero-Coupling, Gene Ransom, and Phil Cawrey.

General Controls Co. constructs new building

General Controls Co. announced the completion of its new building at 600 Bryant St., San Francisco. The new building is expected to increase San Francisco facilities by 120 percent, according to William A. Ray, president of the company.

The new showroom and warehouse, of modern, functional design, has 4400 sq ft of floor space with office quarters located on a level above the auto driveway. Test facilities are provided, and service schools and sales meetings are held in rooms with accordion type walls that can be adjusted to the size of each group.

Florence Stove offers dealers price protection

Florence Stove Co., Chicago, manufacturer of Florence gas ranges, is offering its dealers guaranteed price protection until Oct. 1, 1956, on all orders placed prior to Aug. 1, 1956, according to E. L. Taylor, national sales manager.

According to Mr. Taylor, the new Florence gas range line for '56, is receiving enthusiastic reception by dealers throughout the country. Such features as the Advanced Governess, a thermostatically controlled top surface burner; Colorama styling and a built-in meat thermomenter in the line make it exceedingly popular with the consumers.

Aero-Coupling Corp. opens subsidiary plant

Aero-Coupling Corp., Burbank, Calif., has recently opened a subsidiary plant to provide facilities for forming, brazing, and welding tubular components for aircraft and industrial plumbing.

Expansion plans include the installation of more equipment which will make possible the fabrication of any form of connection or joint that may be required to solve heavy duty plumbing problems.

Calif. tax man issues LPG fuel tax reminder

L. P. gas is not regarded as motor vehicle fuel in California when distributed in or into containers equipped only with dry outlets, H. D. Abbott, highway taxes administrator for the California state board of equalization, has reminded brokers and distributors of LPG.

Distributors dealing in L. P. gas on which a tax has been paid may therefore file a claim for refund of the tax on his sales delivered in or into dry outlet containers, according to the California tax man. No claim may be filed, however, for gas delivered in or into containers equipped with wet valve outlets.

In the same manner, Mr. Abbott issued a reminder that a distributor dealing in L. P. gas on which the tax has not been paid may sell this gas

Here are the features your next delivery unit should have..

AND ONLY AMERICAN GIVES THEM TO YOU

A Custom Unit at Lowest Cost

New super-safe plumbing system increases pumping capacity . . . makes delivery faster . . . saves time and money.

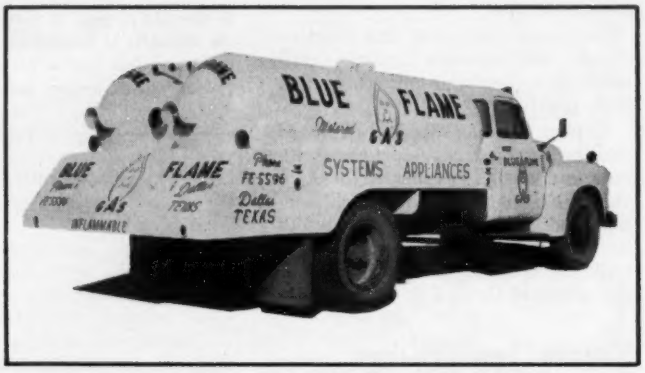
Tanks are locked to truck. Positively won't slip forward . . . a great driver-protection feature in case of accident.

Best balanced units on the road. American delivery units save wear and tear on trucks, give greater safety.

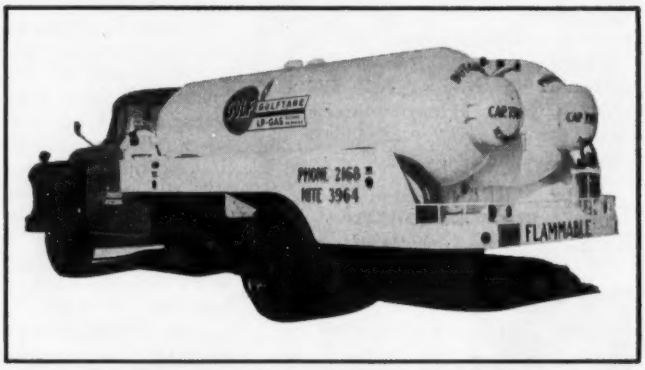
Motor fuel tank and meter mounted in rear . . . can't be side-swiped or sheared off . . . another American safety feature.

Quick changeover . . . when your long lasting American tanks are ready for a new truck, they can be changed over in just a few minutes . . . another American plus.

Good Looks . . . American delivery units are streamlined and good-looking . . . give you the extra safety you need with the smart appearance you want.



Deluxe Model N17. A completely enclosed, compact unit designed with all controls, motor fuel tank, meter, hose reel, power take-off and clutch controls in rear cabinet. Particularly desirable for dealers in northern areas . . . keeps all controls and equipment clean, fully protected from snow, ice or rain.



Deluxe Model B21. Fuel tank and fire extinguisher located in rear . . . meter and hose on catwalk next to driver. Also available with fuel tank, clutch, power take-off and hose reel in rear.

FINANCING AVAILABLE — Write for Information

HEADQUARTERS FOR THE LP GAS DEALER
1 order • 1 shipment • 1 invoice

Telephone STerling 4916

American Tank

AND MANUFACTURING COMPANY INC.

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ALSO AVAILABLE AT·

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P. O. Box 2563
Highway 80 East, Phone 3-8726

P. O. Box 1555
North Miami, Fla.

Littlefield, Texas
306 N. Ripley
P. O. Box 689, Phone 228 MX

on an ex-tax basis only when delivery is in or into a container equipped with only dry outlets.

Brokers and distributors were requested to comply strictly with the above ruling, 1102 of the rules and regulations of the board of equalization, since failure to comply is cause for revocation of license.

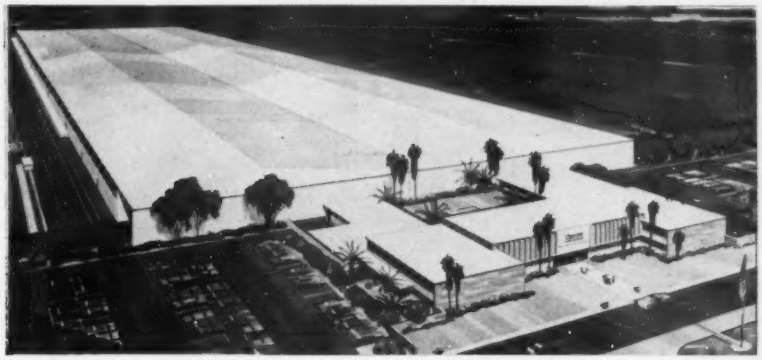
Upon request and with the approval of the owner, the board will seal the valves of a wet valve container, the outlets of which are connected to the fuel supply lines of commercial or industrial heating or power installations, thereby making the container eligible to come under the dry valve and therefore tax free ruling.

broilers, deep fat fryers, baking and roasting ovens, and accessories, placed in two major categories; heavy duty equipment which is designed for mass cooking where the number of meals to be served is extremely large, and cafe line, designed for the preparation of up to 200 meals.

Richfield Oil Co. report tells of diminishing oil

With reserves of crude oil in California rapidly diminishing, petroleum companies in that area are either building refineries in the state of Washington to process Canadian oil or are bringing oil from overseas for processing in California, the 1955 annual report of the Richfield Oil Co. points out.

Richfield does not now import crude oil but is exploring in the middle east in case importation is necessary, the report states. Two possibilities may increase California supplies, however. These are offshore wells and legislation on unitization which will encourage operators in an oil pool to operate the pool as a unit.



This preliminary architect's sketch shows the new $6 million manufacturing, engineering and office building to be erected by Carrier Corp. at Puente, Calif., for use by the Day & Night and Payne Divisions of the company.

General Niblo will head governmental department

Opening of a Washington, D. C., office, establishment of a new governmental department and the appointment of Urban Niblo, brigadier general, U. S. A. (retired) as director of government operations with offices at 401-08 The Folger Bldg., Washington, were announced recently by H. Neil Mallon, president, Dresser Industries Inc., Dallas.

As director of governmental operations for Dresser, General Niblo will also have the responsibility of directing industrial defense mobilization for the company and will function as Dresser's director of civil defense activities.

Commercial cooking gear displayed at exposition

A representative selection of the complete line of Magic Chef commercial cooking equipment was shown at the National Restaurant Exposition in Chicago, May 7-11, 1956.

The exhibit included gas ranges,

Carrier plans $6 million west coast plant

Construction by Carrier Corp. of a $6 million west coast plant for the production of air conditioning equipment, furnaces and water heaters will begin this year, it was announced by Lyle C. Harvey, senior vice president of the company.

With an area in excess of ½ million sq ft, the new manufacturing, engineering and office facilities will be located on a 68-acre plot at Puente, Calif., 18 miles east of Los Angeles. The plant will provide expanded facilities for the rapidly growing production needs of the Day & Night and Payne Divisions and, in addition, will produce certain types of equipment for other Carrier divisions.

William J. Bailey, Carrier vice president and general manager of the divisions now located at Monrovia, Calif., will be in overall charge of the new plant.

News Notes

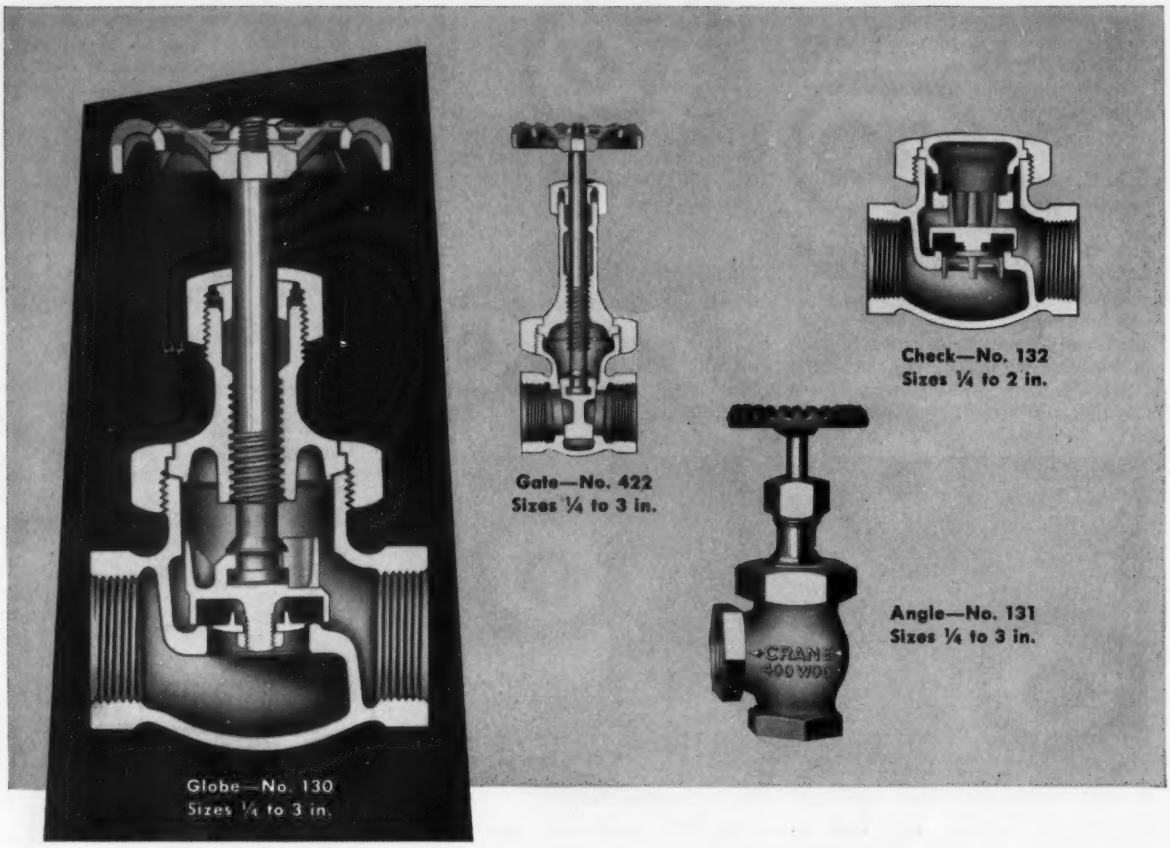
William Wallace executives and employees starred in the May 17 production of the Richfield "Success Story." The program presented the story of William Wallace Co.'s development and growth from a small producer of stove pipe and fittings to its present position as a major manufacturer of gas vent pipe and leader in venting research.

Pyrofax Gas Corp. has opened a new bulk plant in Rhinebeck, N. Y. This is the 72nd in a chain of Pyrofax cylinder filling stations and bulk plants. Distributors appointed recently include: Barrett Tractor Co., Bloomington, Ind.; Monroe Bottled Gas Co., Monroe, N. C.; Essex County Gas Service, Ticonderoga, N. Y.; South Shore Bottled Gas Co., Hanson, Mass.; and Pasco Gas & Appliance Co., Dade City, Fla.

As an example of the studied architectural planning which went into the new $3 million Thunderbird Motel, Miami Beach, it was decided to install gas ranges with their many advantages over electric or other type of cooking appliance in each unit. Because each unit has approximately 365 sq ft of living area, space was a big consideration in the selection of the gas range.

Correction

The Viking Pump Co. article which appeared in the April issue reported that pressure drops shown in Table 5, page 48, and referred to in the text on that page were for 100 ft of hose. The hose length should actually be 10 ft.



Whether liquid or gaseous— handling LP-gas is safer with CRANE Bronze Valves

With Crane Bronze Valves on your storage tanks, tank trucks, and in service piping—you'll reduce the hazards of handling LP-gases to a new low.

Here are valves developed specifically for handling all LP-gases, whether in the liquid or gaseous state. The Crane globe, angle and check valves, for example, have a specially formulated composition disc that seats with absolute tightness, yet withstands hardest wear. And for double insurance against any internal leakage, this special Crane No. 6 disc is permanently cemented into the disc holder.

You'll find the complete line of these Crane Bronze Valves at your local Crane outlet, including globe, angle, gate and check patterns. Each pattern is designed and constructed to help you do a better, safer job of LP-gas handling. See your local Crane Representative today for details, or write to address below.

CRANE VALVES & FITTINGS

PIPE • KITCHENS • PLUMBING • HEATING

Since 1855—Crane Co., General Offices: Chicago 5, Ill. Branches and Wholesalers in All Areas

LPGA holds largest convention

Playing host to 4000 visitors, the silver anniversary convention of the Liquefied Petroleum Gas Association was held at the Conrad Hilton Hotel, Chicago, May 6-9. The largest trade show in the history of the association, including 250 exhibits by manufacturers, distributors and service organizations, occupied much of the convention time.

Opening business session of the convention was held at the Monday luncheon, with Raymond Moley, former braintruster and now ardent crusader for private enterprise, as the featured speaker. He named as a threat to private business a little-known law passed last year as an amendment to the housing act which opens the door to federally supported gas service and parallels the government's subsidy of electric power service.

Although Mr. Moley sees in this law a grave threat to private ownership, he pointed out that on other fronts the battle between public and private power is swinging toward the private side. Citing examples of this side in the northwestern states, Mr. Moley showed that where there has been a real showdown with the people at the public polls on the strength of the public power movement, the verdict has been in favor of the regulated private enterprise.

LPGA President C. J. McAllister echoed this threat of public ownership in his report to association members. He charged the power companies with short sighted emphasis on cooking speed, while public power advocates are gathering their forces to "socialize" privately financed gas and electric production and distribution.

Turning to cooperation between the L. P. gas and utility gas industries, Mr. McAllister said that spokesmen for both gas groups had agreed on fundamentals of a cooperative program on all-gas promotion. At a later meeting of interested industries a joint organization to implement the program was agreed upon.

R. J. Eggert, marketing research director of the Ford tractor division brought up figures to show that factory-equipped L. P. gas tractors are expected to total 5% of 1956 production, and is expected to reach 12% by 1965. He also predicted substantial increase in LPG operated farm equipment through conversions of existing gasoline engines.

Separate meetings were held for the producers, appliance manufacturers, equipment manufacturers, tank fabricators and marketers sections. At the latter, M. H. North, Oklahoma Natural Gas Co., Tulsa, spoke on local cooperative advertising programs, and Walter A. Scheutte, Hausgas Inc., Washington, Mo., outlined the experiences of his company in conducting a successful campaign to sell heating contractors on L. P. gas. (See BUTANE-PROPANE *News*, July, 1955, page 35.)

The load balancing division of the marketers section conducted a panel discussion on building balanced loads, under the leadership of Eugene Schrage, Thermogas Co., Allison, Iowa, chairman of the load balancing division. Speakers were E. C. McLean, industrial engineer of Chicago, who discussed industrial applications; Robert Strawn Jr., Agricultural Equipment Co., La Junta, Colo., spoke on the market for weed control equipment and fuel; R. E. Barnes, American Liquid Gas Co., Los Angeles, discussed the applications for L. P. gas carburetion.

The load balancing division of the marketers section is the outgrowth of proposals made in the March, 1955 issue of BUTANE-PROPANE *News* as a means of solving one of the industry's most pressing problems. At a press conference, President McAllister had previously listed the creation of this new division as one of the two outstanding accomplishments of the LPGA during the past year.

Twins Gwen and Gail Williams, Miss Propane and Miss Butane, pose with Charles Russell, Thermogas, Omaha, general chairman of the National LPGA convention.

The Misses Gwen and Gail Williams, twins from Northwestern University, were much in evidence as Miss Propane and Miss Butane. Special programs and entertainment features for the ladies were sponsored by the program committee. The unusual cocktail party was held on Tuesday, and the convention closed with a banquet and the 1956 version of the Gas Flame Gaieties.

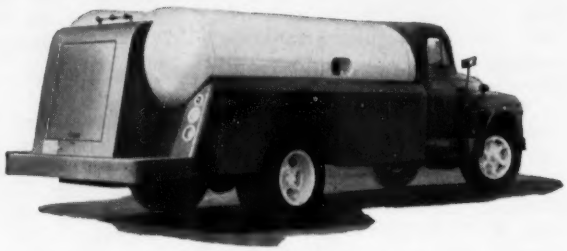
Charles Russell, Thermogas, Omaha, was general chairman of the convention.

See how easy it goes... with the Downingtown delivery truck

Your driver pulls up to customer's system and parks. Raises rear door; finds all delivery controls at his finger tips. Leads hose straight out either side and connects to filling valves. He's all set for another speedy delivery...without wasting time, trouble or his temper.

Downingtown tank trucks build your profits by completing more deliveries every truck day. They're loaded with custom-quality features, at a production price. Road-hugging stability. Full skirting. Enclosed cabinets. Compact plumbing. Internal safety valve. Meet *both* ICC MC-330 specifications and ASME Code for 250 pounds pressure.

Twin-barrel design illustrated hauls 1406 gallons pay load (1700 W.G.). Other capacities, and single-barrel units also available. Write for details, or call Downingtown or Pressed Steel Tank representative.



Downingtown Iron Works, Inc.

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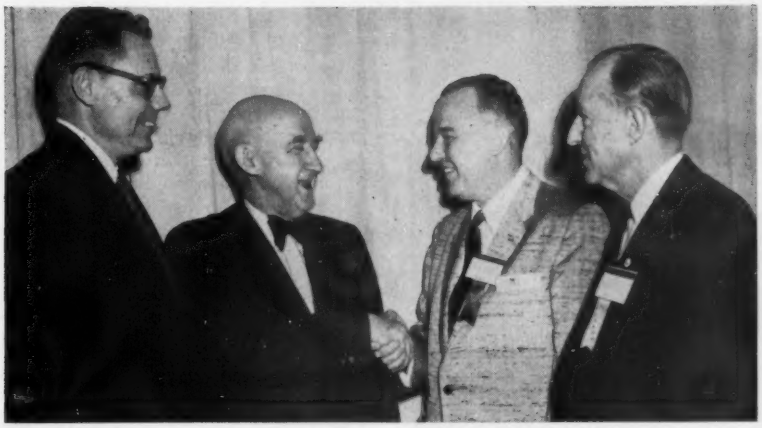
DOWNINGTOWN IRON WORKS INC. Hackney

LP-GAS CONTAINERS FROM ONE POUND TO 30,000 GALLONS



Raymond Moley, featured speaker of the opening business session on Monday shakes hands with C. J. McAllister, president of LPGA. Looking on are (left) R. J. Eggert, Ford Motor Co., and Howard D. White, executive vice president, LPGA.

K. H. Dickson becomes new president of LPGA

K. H. Dickson

Kenneth H. Dickson of Moberly, Mo., was installed May 9 as president of Liquefied Petroleum Gas Association. Mr. Dickson is vice president and general manager of Uregas Service Inc., Moberly, Mo., an L. P. gas marketing organization.

Dickson was unanimously elected after a year's term as LPGA's first vice president. He took office on the closing day of the national trade association's 25th annual convention, succeeding C. J. McAllister of Waldorf, Md., in that office.

The new president has spent 18 years in the L. P. gas business, most of them with the Missouri firm. Previously he had been with Coleman Co., Wichita, Kansas. He and a partner started Uregas in 1940. From the start Mr. Dickson's wife, Catherine, has been active in the business. She is now secretary-treasurer of the firm. Uregas operates 16 bulk plants and serves 500 dealers in Missouri and Illinois. They provide both bottled and bulk gas service, handling about 18 million gal. annually.

Other national officers whose elections were announced May 9 are first vice president Talmadge Lovelady, Worland, Wyo., and second vice president Arthur E. Bone, Malvern, Pa. Both men are operators of marketing firms and have been active in LPGA and industry affairs for many years.

Mr. Lovelady is president of Pure Gas Service Co. at Worland. He has been in L. P. gas marketing since 1940, most of that time in Wyoming. Prior to that time he had been in the gas and farm supply business in Kentucky.

Mr. Bone is president of Eastern Propane Co., Malvern. He has been in the industry for many years and has been active in state and national L. P. gas association activity.

Julius Klein elected president of GAMA

Julius Klein, president of Caloric Appliance Corp., Philadelphia, was elected president of the Gas Appliance Manufacturers Association during the 21st annual meeting of the trade group at White Sulphur Springs, W. Va., April 19-21.

Mr. Klein, who is now second vice president, will take office as president in October, succeeding W. F. Rockwell Jr., president of Rockwell Manufacturing Co., Pittsburgh.

Other newly elected officers are: first vice president, Clifford V. Coons, vice president and director of Rheem Manufacturing Co., New York; second vice president, E. A. Norman Jr., president of Norman Products Co., Columbus, Ohio; and treasurer, Stanley H. Hobson, president of George D. Roper Corp., Rockford, Ill.

Thirteen newly elected chairmen of GAMA divisions are: domestic gas range division, Cecil M. Dunn, president of Magic Chef Inc., St. Louis; gas wall and floor furnace division, Harley Weatherley, Chattanooga Royal Co., Chattanooga, Tenn.; gas conversion burner division, Robert

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"THE HEART OF THE HOME"

WALDORF

GLASS LINED L-P GAS WATER HEATER

AND

THE NEW WALDORF L-P GAS CLOTHES DRYER

displayed at the Chicago LPGA convention

for further information send in this coupon

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Tell me more about your WATER HEATERS AND DRYERS.
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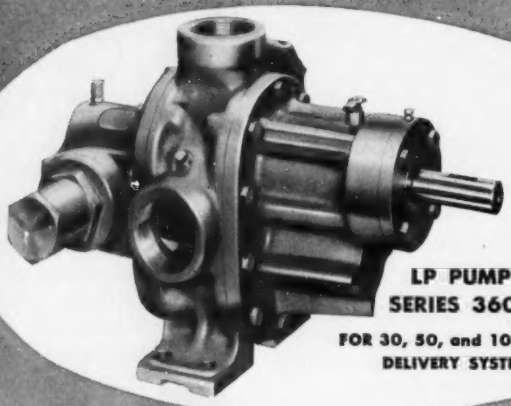
SPECIFY ROPER LP TRUCK PUMPS...

Fast–Quiet–Economical



LP PUMP
SERIES 3603
FOR 30, 50, and 100 G.P.M.
DELIVERY SYSTEMS

Not only designed and built for LP service, but proved-on-the-job under rush-season conditions . . . that's the case with these *dependable* LP-Gas Truck Pumps! And, users report what we've been saying all along. Ropers are *fast* (permit more calls per day) . . . *quiet* (non-chattering and smooth-running) . . . *economical* (reach rated capacities at lower motor speeds, thus conserving fuel, motor maintenance, the pump itself). If *you* want to effect more profitable operation as others have done, your first consideration should be a Roper-equipped delivery system! These LP pumps are available both as tank truck units and as bulk plant pumps. Get *all* the facts . . . write for Bulletin 24.

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Rotary Pumps

GEO. D. ROPER CORPORATION
356 Blackhawk Park Avenue, Rockford, Ill.

I. Warneke, Roberts Gordon Appliance Corp., Buffalo.

Gas valve division, Norman Reif, W. J. Schoenberger Co., Cleveland; gas incinerator division, Don Winegardner, assistant sales manager, The Majestic Co. Inc., Huntington, Ind.; automatic controls division, Karl Schick, Minneapolis-Honeywell Regulator Co., Minneapolis; gas unit heater and duct furnace division, T. D. Bromley, vice president, Gas Heating Division, Peerless Manufacturing Co., Louisville, Ky.

Gas appliance regulator division, Walter Lee, Major Controls, Corona, Calif.; gas clothes dryer division, Franklin T. Grimes, Whirlpool-Seeger Corp., St. Joseph, Mich.; gas boiler division, Frank J. Nunlist, vice president, Mueller Climatrol Division, Worthington Corp., Milwaukee.

Gas water heater division, Frank Osborne, vice president, Mission Appliance Corp., Los Angeles; gas vent and flue pipe group, C. E. Blome, director, industry relations, Metalbestos division, William Wallace Co., Dallas; and gas furnace division, Edwin A. Jones, Century Engineering Corp., Cedar Rapids, Ia.

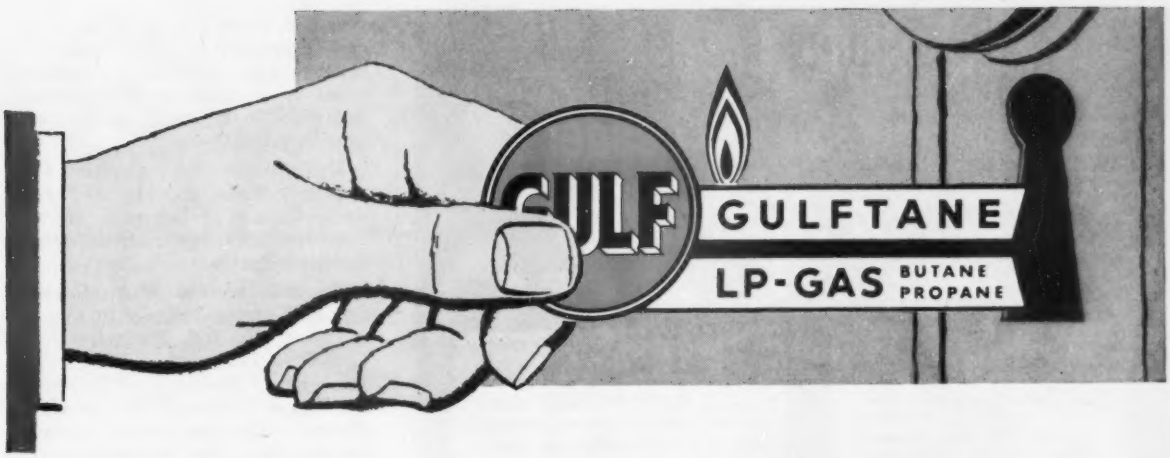
Edwin L. Hall, AGA Lab director, dies suddenly

E. L. Hall

Edwin L. Hall, director of the American Gas Association Laboratories in Cleveland and Los Angeles and an assistant managing director of the Association, died suddenly at his home in Cleveland, Ohio, April 1 at the age of 53.

An internationally known authority on gas manufacturing and gas appliances, Mr. Hall held more than 25 patents on gas-making processes. In 1950, he was presented the AGA Distinguished Service Award, the highest honor bestowed by the Association, for having made the most outstanding contribution of any individual toward the advancement of the gas industry.

He was cited for his original contribution in the development of equipment and processes for the manufacture of high Btu gas. Mr. Hall developed and gave to the gas industry a new process for the manufacture of gas of high heat content from inexpensive, low-grade oils. Through his process, manufactured gas companies were able to increase produc-



This key can open the door to greater LP-Gas sales • • •

Here are three good reasons why it will pay you to buy Gulftane LP-Gas:

1 High quality—Gulftane is produced in plants of the latest design under accurately controlled conditions to specifications that meet the highest standards adopted by the LP-gas industry. It is free of moisture, gum, tar, dust, dirt, and sulphur. Or, to put it another way, Gulftane is the same high quality as Super-Refined No-Nox Gasoline and the other well-known products that carry the familiar Orange Disc trade mark.

2 Dependable supply – many natural gasoline plants and refineries, plus adequate storage, assure reliable, continuous supply.

3 Prompt delivery service—modern Gulftane producing plants strategically located throughout Gulf's wide-spread marketing territory, along with a fleet of new tank cars, assure prompt, efficient delivery service.

Also ready to serve you is Gulf's experienced engineering and marketing personnel. Get all the facts concerning Gulftane service—contact your local Gulf District Office or your nearest Gulf Division Sales Office (see addresses below).

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New Orleans 13, La.

17 Battery Place
New York 4, N. Y.

1515 Locust Street
Philadelphia 2, Pa.

National Bank Building
Toledo 1, Ohio

P. O. Box 1679
Denver 1, Colo.
(Zone Office)

230 No. Michigan Ave.
Chicago 1, Ill.
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New Style Leader
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Smarter Styling

. . . with "Pretty as a Picture" styling, WARM MORNING Gas Heaters have the neat, attractive design your customers are looking for, want and buy. New WARM MORNING "V-20", "V-30" vented models and "Rio Grande" unvented series available in two decorator colors: Sheraton Brown (shaded mahogany) and Desert Sand (tan beige).

Faster Sales

. . . . . WARM MORNING Gas Heaters not only have smarter styling, but also performance features that customers want and can afford. That's why WARM MORNING sells faster and you make more profits. You can offer your customers top values in both vented and unvented heaters, in a full range of sizes from 20,000 to 85,000 BTU input, both circulator and radiant circulator types.

Illustrated: Model "V-30S". Vented circulator of 30,000 BTU input.

Fastest Selling Incinerator on the Market!

Last year the WARM MORNING Incinerator set new sales records to become America's fastest selling incinerator. Why? Because of its unmatched combination of features including *full firebrick lining*, porcelain finish, and its attractive selling price; and big profit margin. It's the practical and economical answer to a common household problem . . . and its sales potential is tremendous! Fill out the coupon below and get the whole story. Do it now!

Warm Morning®

A QUALITY LINE OF GAS & COAL HEATERS & GAS INCINERATORS

Mail This Coupon Now!

LOCKE STOVE CO.,
114-F West 11th Street, Kansas City 5, Mo.

☐ Send literature and information on WARM MORNING Gas Heaters. ☐ Vented ☐ Unvented

☐ Send literature and information on WARM MORNING Incinerators.

Name_____

Address_____

City_____ Zone____ State_____

tion and effect savings of as much as 30 percent in the cost of manufacturing gas at a time when expansion plans of the industry were greatly hampered by shortages of steel and other vital materials.

Mr. Hall was recipient of the Walton Clark Medal, given by the Franklin Institute of Philadelphia. He was cited for "his many contributions to the gas industry."

Mr. Hall spent an illustrious professional career entirely in the gas industry. He was graduated from Ohio State University in 1924, with a Bachelor of Metalurgical Engineering degree. He began his service in the gas industry as a cadet engineer for the United Gas Improvement Co. at the Philadelphia Gas Works Co. Later, in 1924, he was transferred to Syracuse Lighting Co. where he supervised operation of water gas sets. He served in many capacities with UGI and, from 1936 to 1940, he was in charge of the development of a large engineering laboratory in Chester, Pa., as well as supervising the appliance laboratory for UGI.

He joined the Manchester (N. H.) Gas Co. as manager and treasurer in 1940. He resigned that position in May, 1945, to join the American Gas Association as secretary-coordinator of the AGA gas production on research committee. In this capacity, he supervised all gas production research carried on in institutions by the AGA promotion, advertising and research (PAR) program.

On November 1, 1947, Mr. Hall was appointed director of the Association's Testing Laboratories in Cleveland and Los Angeles.

Mississippi dealers have a "Night on Broadway"

"A Night on Broadway" topped off the annual meeting of the Mississippi L. P. Gas Dealers Association held April 22-24 at the Edgewater Gulf Hotel, Edgewater Park, Miss. The entertainment, part of the sixth annual Night of Enjoys, featured Max Fetty, Delta Tank Co., as MC.

Dealers heard five important industry topics discussed in addition to addresses by Dr. W. D. McCain, president of Mississippi State College, and the Honorable John Ben Shepperd, attorney general of the State of Texas.

Cecil M. Dunn, president of Magic-Chef Inc., and John Holzman, general sales manager of the same firm, outlined "The Gas Range and Its Bright Sales Future" for the Mississippi dealers.

Easy to sell

Kaiser Steel LP-Gas Systems win customers with their trouble-free performance, long life and modern good looks. Tanks are fabricated from steel plate that has been specially processed to resist rust and corrosion. All moisture is removed to assure dependable service and prevent winter freeze-ups. Valves and fittings, the most accurate available, are located under one hood for safety, convenience and pleasing appearance.

Trouble-free operation, long life and pleasing appearance add up to *satisfied customers* when you install Kaiser Steel LP-Gas Systems. And don't forget, Kaiser Steel advertising in consumer publications brings you inquiries from interested prospects.

Easy to service

Kaiser Steel LP-Gas Systems make servicing easy for your drivers. All controls are located under a single hinged hood on the top of the tank. This reduces servicing time—increases your profits.

Tank sizes are available for residential, commercial and industrial installation. Bulk propane storage tanks are fabricated in sizes up to 30,000 gallons water capacity. For complete information write: Kaiser Steel, Fabricating Division, Napa, California.

Kaiser Steel LPGas SYSTEMS

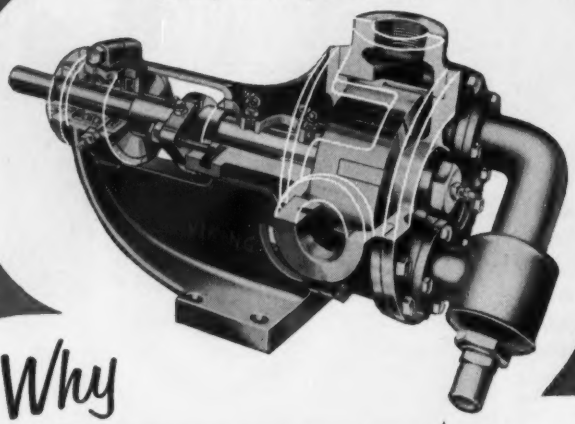
The symbol of *satisfied* customers

Kaiser Steel

FABRICATING DIVISION

Napa and Fontana, California

Cut-away view Viking LP-Gas Pump



Why

SO MANY INSIST on VIKING LP-GAS PUMPS

Only Viking offers dependable pumping with this combination of features . . .

1. No lubrication required
2. No leakage
3. Fast, positive pumping
4. Complete safety of operation
5. Handy port location to suit your piping
6. Lower power requirements
7. Complete line from which to choose

Write Today for Catalog Hb Listing 40 Models. Free on Request.

VIKING PUMP COMPANY

Cedar Falls, Iowa, U. S. A. In Canada, it's "ROTO-KING" pumps

See our CATALOG in the Butane-Propane Catalog

Keep Up with L. P. gas Developments Each Month

BUTANE-PROPANE News

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198 SOUTH ALVARADO STREET, LOS ANGELES 57, CALIFORNIA

See Page 2 for Foreign Rates

☐ Check herewith ☐ Bill me ☐ 1 year $2.00 ☐ 2 years $3.00

Name_____ Title_____

Firm_____

Street_____

City_____ Zone____ State_____

Other speakers included B. H. Stallworth, Monroe Gas Co. Inc., Monroeville, Ala., and Fred Blossman, Covington, La., who conducted a panel with audience participation on "How to Make Money in the L. P. Gas Business." The importance of experience was pointed out by Richard Dorman, director of the Mississippi Liquefied Compressed Gas Division of the Motor Vehicle Comptroller's Office.

Warren Petroleum Co.'s market research director W. R. Lund brought several important facts to light regarding L. P. gas which were aimed at building business for dealers, and "The Sixth Factor in American Business" was introduced by Dr. James L. Brakefield of the Liberty National Life Insurance Co.

Insurance plan available through Michigan LPGA

The Michigan L. P. Gas Association has announced the availability through the association office of an insurance plan covering life, health and accident and hospitalization. Any L. P. gas distributor or dealer in the state of Michigan, or their employees, may participate in this program at group rates.

According to the association officials, this insurance plan is superior in some respects to the Blue Cross-Blue Shield plan. It is open to every person actually engaged in the sale and service of L. P. gas in the state of Michigan ragardless of the size of the business or number of employees.

Full information may be obtained from the secretary of the association who is J. O. Gower, c/o Michigan Bottled Gas, Eureka.

New England convention makes Boston TV show

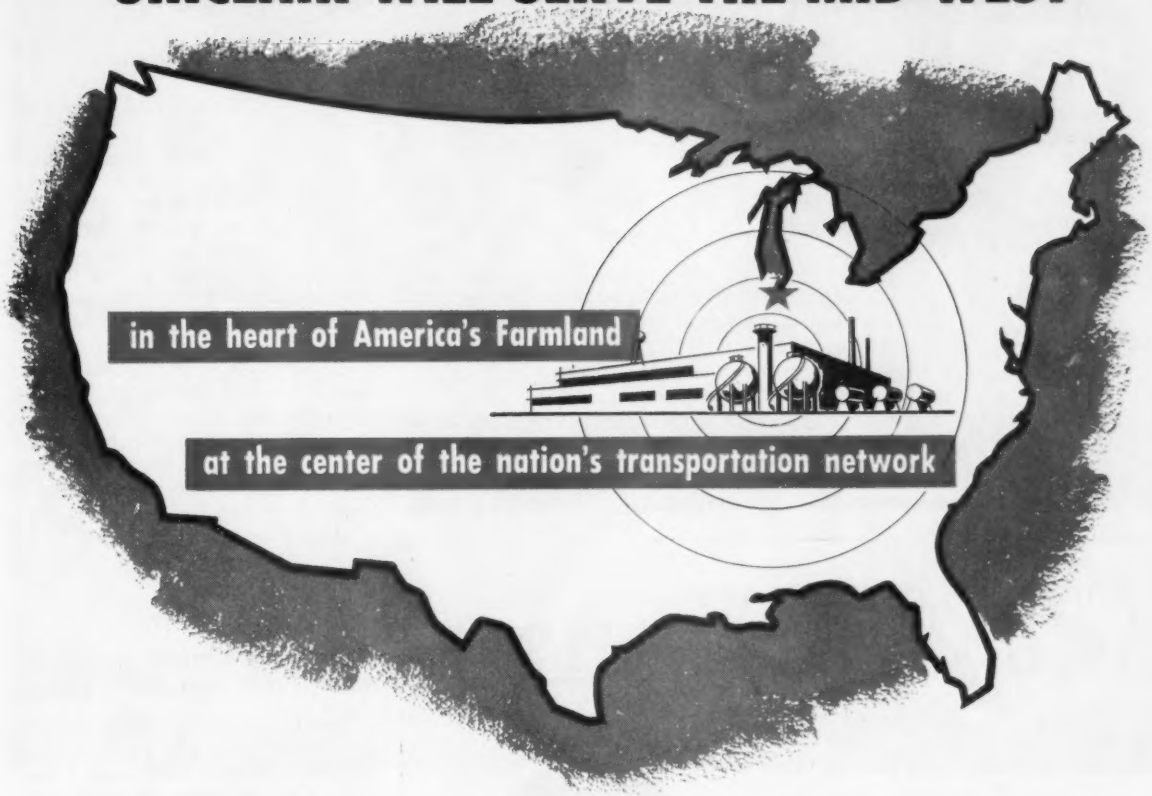
Boston television fans were able to see a part of the eighth annual meeting of the L. P. Gas Association of New England held at the Sommerset Hotel in Boston. Cameramen for WBZ-TV attended the banquet and took pictures in accordance with a script prepared by LPGA's district office. The films appeared on the Esso Standard Oil Co. news program.

William R. Holmes, Suburban Propane Utility Gas Co. of Portland, Maine, is the association's new president. Secretary-clerk is Roger Stillman, Caloric Appliance Co., Andover, Mass., and W. A. Sanford, Pyrofax Gas Co., Lexington, Mass., is newly elected treasurer.

State vice presidents include Sterling K. Nelson, S. K. Nelson Co., So.

A new source for nitrogen chemicals

SINCLAIR WILL SERVE THE MID-WEST



Strategically located in Hammond, Indiana, this ultra-modern plant will soon be on stream – producing high purity anhydrous ammonia and nitrogen fertilizer solutions for agriculture and industry.

The central location of this plant is of prime importance to you. It means *fast, low cost delivery* of your nitrogen needs via Sinclair's fleet of tank cars and tank trucks. Moreover, vast storage facilities will enable Sinclair to supply you with top quality products during your busiest periods.

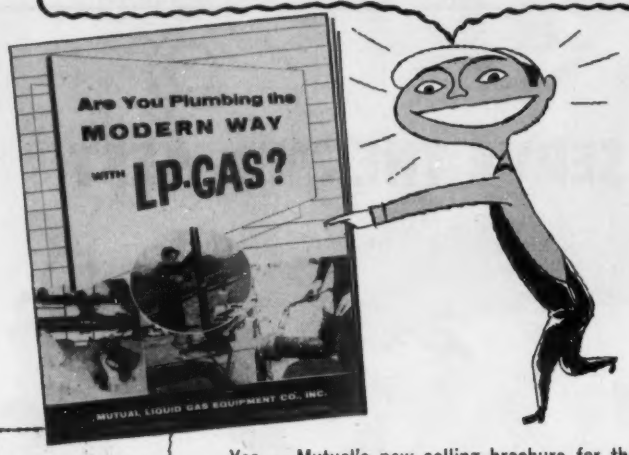
For further information about how this new plant can meet your nitrogen supply problems, phone or write . . .

SINCLAIR CHEMICALS, INC.

(Affiliate of Sinclair Refining Company)

600 Fifth Avenue, New York 20, N. Y. • Phone Circle 6-3600
155 North Wacker Drive, Chicago 6, Illinois • Phone Financial 6-5900

Boy! Here's a Sales Aid that really has Punch!



Be Sure and Write for Your Copy Today

Yes — Mutual's new selling brochure for the plumbing trade does have PUNCH! It tells how LP-Gas does the jobs of lead-melting, burning-out and soldering better, faster, and cheaper. This eight-page brochure is available now to help your salesmen sell gas and equipment to the growing plumbing market.

Mutual LIQUID GAS EQUIPMENT CO., INC.
17129 South Broadway, Gardena, Calif.

For L. P. Bulk Storage Leading Firms Pick **NELSON**

There are over 250 SYSTEM NELSON bulk plants for the storage of LP Gas and Anhydrous Ammonia located in 25 states. Take advantage of our experience and get extra value and service on your next storage problem. Contact us for a meeting with an experienced storage engineer.

SYSTEM NELSON

EDWARD S. NELSON, Ltd.
Clarksdale, Mississippi

THE LEADING NAME IN THE BULK STORAGE FIELD!

Deerfield, Mass.; Sanford Hammond, Suburban Propane Gas Co., E. Greenwich, R. I.; Henry Merrill, Merrill Liquid Gas Co., Brattleboro, Vt.; B. Stevens, F. &. S. Oil Co., Waterbury, Conn.; Beland H. Pierce, Overal B. Pierce Co., Peterborough, N. H.; and Ray Read, Pyrofax Gas Co., Auburn, Maine. Director at large is James F. Coffin, Country Gas Service Inc., Danvers, Mass.

Mr. Sol Weill of the Bengal range division of John Wood Manufacturing Co., Royersford, Pa., gave an inspirational talk. His subject, "Worms, Strawberries and Lonesome Women," combined humor, facts and ways and means for bettering the industry.

LPGA's new group insurance plan has been the headliner for the past few months. Mr. Robert Mosely of John Hancock Mutual Life Insurance Co., gave a graphic discussion of the plan pointing out its advantages to all entitled to this insurance coverage. A question and answer period followed Mr. Mosely's talk.

Greetings from the National Association were carried to LPGA of NE from National President C. J. McAllister. Mr. McAllister's after-dinner talk covered an eye-wittness account of "Operation Cue" complete with color slides and films. It was a dramatic presentation and pointed out in no uncertain terms how L. P. gas equipment stood up under this man-made holocaust.

Tennessee's meet expected to be most successful yet

Tennessee LPGA will hold its annual convention at the Lookout Mountain Hotel, Chattanooga, Tenn., July 8-10. According to W. G. Darden, secretary-treasurer, it is expected to be the most successful convention in the history of the association.

Lookout Mountain Hotel will afford guests with plenty of entertainment. Included in the hotel's many amusements for patrons is a swimming pool, open air patio for dancing, nearby golf course, archery, putting green, children's playground, hiking, and many other diversions.

New approach planned for management institutes

A new approach to management institutes will be inaugurated by the 1956 Central States Management Institute to be conducted at the University of Kansas, Lawrence, Kans., on June 28 and 29.

Instead of a three or four day pe-

Million-Pound Squeeze

This 500-ton hydraulic press puts a million-pound squeeze on cold steel to shape a PREST-O-LITE cylinder shell. LINDE's 50-odd years of specialized deep-drawing experience helps to assure maximum strength with minimum weight in every cylinder produced.

Precise control of wall thickness is one of many watchful steps LINDE takes to give you uniformly high quality in the cylinders you depend on. This is just one of the reasons why PREST-O-LITE cylinders are first choice in their field. No matter what you pay, you can't buy a better cylinder than one trade-marked PREST-O-LITE.

To find out more about PREST-O-LITE products, call or write to the LINDE office nearest you. LINDE AIR PRODUCTS COMPANY, a Division of Union Carbide and Carbon Corporation, 30 East 42nd Street, New York 17, N. Y. In Canada: Linde Air Products Company, Division of Union Carbide Canada Limited, Toronto.

The terms "Linde" and "Prest-O-Lite" are registered trade-marks of Union Carbide and Carbon Corporation.

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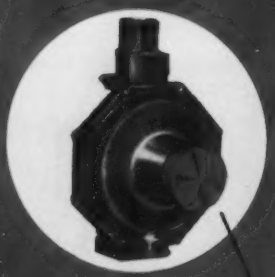
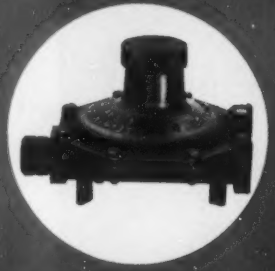
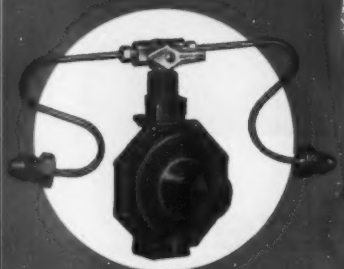


D-1600 LOW PRESSURE (RED CAP) EXCEEDS 500,000 BTU.

D-1600 HIGH PRESSURE (RED BODY) EXCEEDS 2,500,000 BTU UNDER EXTREME WINTER CONDITIONS.

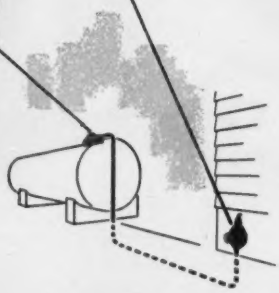


D-1610 RECOMMENDED FOR 500 TO 1000 GALLON TANKS. EXCEEDS 1,125,000 BTU AT TEN POUNDS INLET PRESSURE



D-251 MANUAL THROW OVER REGULATOR ASSEMBLY

THE REGULATOR THAT PAYS ITS WAY OVER AND OVER AGAIN



TWO STAGE REGULATION

For maximum efficiency and maximum service, plan on two stage regulation using the D-1600 high pressure and D-1600 (Red Cap) low pressure Sel-Pac.

You pay no premium for Sel-Pac Regulators, in fact, in many cases they cost you less.

In today's Sel-Pac Regulators you find only the features which through 20 years' experience have emerged as the best in performance and dependability. Take for example our D-1615, the gas is directed downward, which helps prevent freeze-ups. Then too, Sel-Pac's balanced orifice and diaphragm sizes assure maximum flow with minimum lock-up.

Sel-Pac orifice and seat inserts are standardized so that one size orifice and seat will fit various models of regulators. Standardization helps you. Now-a-days with only five Sel-Pac models you can handle 99% of all regulator needs. Think what this alone means in reducing inventory costs!

BUY SEL-PAC REGULATORS FOR INCREASED ECONOMY, PERFORMANCE AND CUSTOMER SATISFACTION

SELWYN-PACIFIC COMPANY

340 WEST AVENUE 26, LOS ANGELES 31, CALIFORNIA

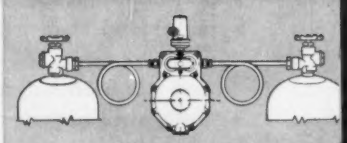
LISTED UNDER REEXAMINATION SERVICE OF UNDERWRITERS' LABORATORIES, INC. UL

NO. D-1615 SEL-PAC AUTOMATIC REGULATOR

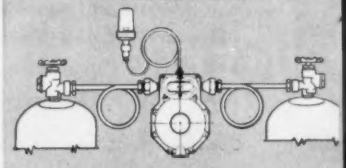
D-1615 AUTOMATIC REGULATOR

- 300,000 BTU (120 CFH) with cylinder pressures of 10 lbs. p.s.i.
- INDICATING GAUGE for direct or remote installation
- P O L or Inverted Flare Inlet Connections
- SENSITIVE CONTROL OF PRESSURE
- LISTED BY UNDERWRITERS' LABORATORIES

Sel-Pac Automatic Regulators indicate to the customer when the gas supply is low, therefore, reducing your "out of gas calls." A red flag appears when the regulator begins to draw from reserve cylinder. Specify the D-1615—the last word in Automatic Regulators.



AUTOMATIC REGULATOR ASSEMBLY. DIRECT GAUGE. P O L OR INVERTED FLARE INLETS.



AUTOMATIC REGULATOR ASSEMBLY. REMOTE GAUGE. P O L OR INVERTED FLARE INLETS.

ADVERTISEMENT

LP-GAS SERVICE TIPS

by GEORGE R. POSTLEWAIT
President
SELWYN-PACIFIC COMPANY

1. A quick opening and closing of a cylinder or tank valve before connecting the pigtail may blow foreign matter from the valve outlet which might otherwise damage the regulator seat.
2. Don't overtighten new P.O.L. connections. If a P.O.L. seat is crushed, excessive tightening is required from that time on.
3. Whenever possible, install regulators in a vertical position with the inlet at the top. This gives moisture, heavy ends, fine scale, etc., a chance to pass on through the regulator and minimizes service calls.
4. Be sure the regulator breather and relief vent is kept open at all times. A frozen or clogged vent not only leads to improper regulation but can cause serious accidents.
5. Don't try to use regulators with large orifices which were designed for second stage operation, as single stage regulators. Erratic delivery, humming, high lockups, etc., will result.
6. Don't expect a regulator with a small orifice designed for single stage operation, to have the same capacity if used as a second stage regulator. The small orifice won't pass as much gas at the reduced inlet pressure.
7. Don't *guess* at the size line on the delivery side of your regulator. Size the line to give an orifice pressure of not less than ½" (water column pressure) less than the outlet pressure at the regulator. (Write us for tables covering the proper size piping for various loads and distances.)
8. Don't guess at your orifice pressure. Use an accurate low pressure gauge or a water manometer to make all final adjustments.
9. Don't screw down the regulator adjustment to obtain higher pressures to compensate for pressure drops caused by under-sized lines. This leads to unnecessary service calls to adjust pilot lights, fluctuating orifice pressures, inefficient combustion, etc.
10. When calculating the size line required from the regulator to the burners, be sure to use the total capacity of ALL burners in determining the line size.
11. Don't install containers any closer to any important building or property line than the distances listed by Pamphlet #58.
12. Never transport ICC containers on which the valves are not protected by either: (1) a fixed collar (welded to the cylinder), (2) a cylinder cap completely protecting the valve.
13. Never transport or install ICC cylinders in a horizontal position or in any position when the safety relief device is not directly connected to the VAPOR space of the container.
14. Never tamper with or try to adjust a safety relief valve. Breaking the seal nullifies the U.L. approval.

Copies of these "SERVICE TIPS" and table of pipe sizes, to fit 3 ring binder, available without cost. Please write

SELWYN-PACIFIC COMPANY
340 West Avenue 26
Los Angeles 31, California

riod during which a little of everything pertaining to management is presented at once, a major item will be covered thoroughly.

Such major topics as financing, merchandising and supervision and training are slated for inclusion.

This year's topic is "Finance." Included will be:

1. Organizing and Financing Your Business for Profit—Forms of Business for You, Sources of Funds.

2. What Records are Necessary—Do you know Your Operating Costs, Your Profit and Loss Statement, How you Save on Tax Returns.

3. Business Prospects — Agricultural and Industrial.

4. Financial Relations With Your Customers — Discounts — Cash or Credit Sales—Credit Risks—Collections—Tank Leasing—Fuel Contract —Metered Systems.

5. Panel on Management.

Technical discussions highlight NGAA convention

The 35th annual convention of the Natural Gasoline Association of America opened its sessions Wednesday, April 11, for three full days at the Texas hotel, Fort Worth, with technical papers covering a broad scope of activities and general discussions of interest.

Five forums were presented for specialists in different fields. Forum A consisted of three papers covering adaptation of equilibrium rations to automatic calculators and the solution of plant design and operating problems by electronic computers; Forum B was a panel discussion with four papers covering different types of automatic or portable gasoline plants and a discussion of the relative merits and application of such plants.

Forum C included three papers dealing with improvements in analytical apparatus and techniques with particular emphasis on developments in chromotographic methods. Forum D included a discussion on various factors for management decision and Forum E discussed plant corrosion.

Northwest District LPGA draws 322 members, guests

Three hundred and twenty-two members and guests attended the two-day 9th annual Northwest District LPGA convention held at the Multhomah hotel, Portland, April 6, 7.

Presentations were made by H. L. Purdy, executive vice president, British Columbia Gas & Electric Co., Vancouver, B. C.; C. J. McAllister,

ROLL IT ON AIR!

Made by the pioneer manufacturers . . . and the largest manufacturers . . . of LP cylinder trucks, M/W smooth-rolling hand trucks are today helping to streamline deliveries for LP gas and appliance dealers the country over.

MODEL 7325 (shown)
Standard Cylinder Truck available with 10 x 2:75 tires in two types.
Air Tires.....$24.25
Semi-pneumatic 18.60

MODEL 7325-G
Equipped with 10 x 3:50 General tires having separate inner tubes.
A popular model.....$27.90

MODEL 900 — Designed for safe, smooth, easy handling of gas cylinders up to 30" in diameter and weighing up to 1000 lbs. Roller bearing wheels; 12" pneumatic tires.....$50.00

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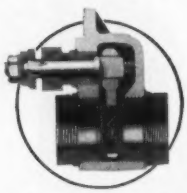
Washington, Missouri • Philadelphia 44, Pa.

Okadee
NON-LUBRICATED
VALVES

cannot
contaminate
process gases
and fluids

Okadee Valves not only hold difficult fluids and gases—such as styrene, butadiene, gasoline and ammonia—but they seal metal-to-metal *without lubrication.* You have no contamination problems, and continuous lubrication labor and materials costs are eliminated. Get full facts on positive-sealing, full-flow Okadee Valves, now.



FACTS AND FIGURES on Okadee Valves will be sent promptly on request. Sizes ½" to 8"; A. S. A. dimensions; screwed or flanged. Valve seats and discs Stellite or stainless steel; your choice of operators.

Write for Bulletin CP6

Okadee COMPANY
332 SOUTH MICHIGAN AVE.
CHICAGO 4, ILLINOIS

More than 200 of the guests and members attending the 9th annual Northwest District LPGA convention are shown here during the luncheon session the second day of the convention. Delegates attended from seven states and from western Canada and Alaska.

LPGA president, Waldorf, Md.; Fred H. Tolan, Traffic Counsel, Seattle; Harry Coblentz, insurance specialist, Marsh & McLennan, San Francisco; Howard D. White, LPGA, Chicago; Charles M. Corken, Corkens Inc., Oklahoma City; W. L. Gordon, Shell Oil Co., Seattle; and Clifford Hall, Coleman Co., Wichita, Kansas.

Walter J. Kraus, convention chairman, welcomed the delegates from the seven states, Canada and Alaska that were in attendance. He pointed out that through the West Coast office of LPGA two opportunities each year are now provided by the Association for dealers and suppliers to meet in convention, for in addition to the Northwest convention, a regional convention and trade show for the entire West Coast will again be held in San Francisco, August 5-7, this year.

The program was rounded out with a banquet, floor show, cocktail party and dance.

It was decided to schedule the 1957 convention in Vancouver.

Mountain States school covers many subjects

A wide range of subjects were covered during the three-day service school held by the Mountain States District of the LPGA in conjunction with the University of Denver. The April 9-11 meetings took place on the Denver Civic Center Campus.

Ninety-eight individuals, representing firms throughout the Mountain States District, were registered for the school which was arranged and managed by J. C. Crawford, district secretary.

Included in the list of courses were flow of gas and piping, regulators, transfer of liquids, meters, pump and compressor maintenance, three sessions on servicing appliance controls, layout of central heating, venting, carburetion and customer relations.

Instructors were representatives of manufacturers and L. P. gas suppliers who are active in the area. At the close of the school, certificates of accomplishment were presented.

New England institute will promote use of gas

First meeting of the Merrimac Valley Gas Institute, organized to promote the use of gas in the Merrimac Valley area of New England, was held recently and a full slate of officers were elected.

President is H. J. Patterson, Lowell Gas Co.; vice president is Charles R. Prichard, Gas Service Inc.; Arthur M. Newman, Glenwood Range Co., is treasurer; and Louis S. Davis of the LPGA of New England is secretary-clerk.

Load balancing sparks South Dakota convention

Summer load activities—aimed at helping the dealer balance his summer-winter load ratio — highlighted the April convention of the South Dakota L. P. Gas Association.

Air conditioning was first to take the stage with a film on the L. P. gas-powered air conditioner manufactured by the Coleman Co. This was followed by a representative of the Armstrong Co. who explained "Air Conditioning—The New Profit Market."

Carburetion and flame weeding and cultivation came in for their share of the summer load program. Carl Deck, Zenith Carburetor Co., pointed out "What Carburetion Can Do For You"; and "Flame Weeding and Cultivation" was the subject of

Full size Deluxe Chrome Top . .

. . in the Popular Price Field!

CHROME TOP

New brilliance in a full size range at a moderate cost! The sparkling chrome top resists stains and wear, keeps its mirror finish for years.

WINDOOR

The EZE-Vue Windoor with light in oven not only makes cooking easier — it saves fuel and adds to the attractiveness of the range and the kitchen.

GRIDDLE-IN-THE-MIDDLE

Built right into the top is this big aluminum griddle. It's handy and easy to clean. Fast cooking gas makes this griddle an especially wanted feature.

BROWN

gas range

Model U77-1EHWZ

LOW, LOW PRICE

Priced to sell with more profit for you and greater saving for the buyer. Write for prices and full information on Brown's Model U77-1EHWZ

BROWN STOVE WORKS, INC., Cleveland, Tennessee

Enterprise Dealers

are the happiest dealers we know!

And why not—for Enterprise sales are up . . . up . . . up . . . ! So the dealers are making more money. Yes, year after year, Enterprise sales skyrocket upward. Dealers are happy and the customers—Enterprise customers—are the most satisfied people we know!

Enterprise

RANGES

Create Sales--Realize More Profit

Serving Value Conscious America for almost 100 years . . . .

PHILLIPS & BUTTORFF MANUFACTURING CO.

ESTABLISHED 1858 • NASHVILLE, TENN.

LP GAS ALUMINUM and COPPER TUBING

Penn alone saw the importance of installing a department to service you, "your own industry." This department offers you the following:

*The flame blue protective carton—labeled, "Bottled Gas Tubing," the industry's standard.

*Another Penn first—varied wall thicknesses to meet your needs—see chart below.

50′ COILS INDIVIDUALLY PKD.

O. D. SIZES	WALL			
	Copper		Aluminum	
⅛"-3/16"-¼"	.030	.035		
5/16"-⅜"-7/16"-½"	.032	.035	.035	.049
⅝"-¾"		.035	.035	.049

LP TUBE TOOLS

Penn's Papco tube tools are also the standard for the LP industry. The Zip-Kit now includes, in addition to the famous Papco No. 400 flaring and the No. 500 cutting tools, the Form-a-Gage—another Penn first. Write for your industry's tool guide.

QUALITY TUBING HAS A "PENN NAME"

PENN BRASS & COPPER COMPANY

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Robert Strawn of the Agricultural Equipment Corp. "Load Equalization," by Mel Glazer, Cities Service Co., summed up the entire subject.

Safety, insurance and association business were also considered during the two-day session at the Marvin Hughitt hotel, Huron, South Dakota. Prizes were given away at each session.

Nebraska dealers hear about supply, metering

Four outstanding speakers topped off the annual convention of the Nebraska L. P. Gas Dealers, held April 15 and 16 at the Hotel Castle in Omaha.

Problems of gas supply were considered by John T. Oxley, president of the Texas Natural Gasoline Corp., Tulsa, Okla., when he spoke on "The Gas Supply Problem and How to Solve It." Once gas is available, it must be distributed and this was included in "Metered Gas—Is It Practical" by Talmadge Lovelady, president of the Pure Gas Service Co., Worland, Wy.

"Oportunities Within the Gas Association" were presented by American Gas Association Director Charles R. Bowen, and the program was well rounded out by Harry Bowser, dynamic sales manager of Servel Inc.

Mrs. Spears elected prexy of Western Liquid Gas meet

Mrs. Gussie Spears, Bakersfield, Calif., was elected president of the Western Liquid Gas Association at that organization's seventh annual convention and trade show held in Fresno, Calif., on April 13 and 14. The convention was hailed as the largest and most successful ever held by that association.

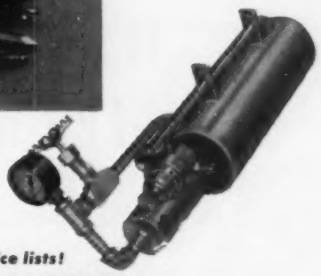
Two keynote addresses highlighted the convention, one at each day's luncheon meeting. John E. Baird, Southern California Gas Co., presented the human side of the gas industry in his talk entitled "Laughing Gas." The next day, "Advertising and Sales Promotion" was explained in a highly entertaining manner by Walter J. Kraus, Bay Heat Corp., North Bend, Ore.

Five topics were presented during the two afternoon sessions, following business meetings. Walter C. Lunsford, Highway Safety Committee, Washington, D. C., presented "Modern Trends of Traffic Safety," while the role of L. P. gas in the air conditioning field was presented by Clifford Hall of the Coleman Co., both on April 13.

the RANSOME LINE

The Complete Line...

of HIGH QUALITY LP-Gas Torches Burners, Furnaces and Portable Outfits ...for all commercial and industrial applications.

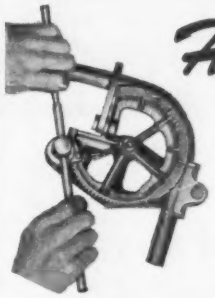


THE RANSOME No. LB40R
Liquid Vaporizing Burner

Write TODAY, for catalog and price lists!

RANSOME COMPANY
Liquefied Petroleum Gas Division
ROOM A6 4030 HOLLIS ST., EMERYVILLE, CALIFORNIA

Ransome



Handy TUBE BENDER

Smoothly Bends Any Pipe or Tubing
3/8" to 1 1/8" O.D. . . .

• Just a twist of the wrist assures perfect, even bends — right angle, any angle, U and offset. Save enough on ONE job to pay for your HANDY TUBE BENDER.

HOLSCLAW BROS., INC.
434 N. WILLOW ROAD — EVANSVILLE, INDIANA

See your supply house—or write for free folder today.

A provocative talk entitled "Food for Thought—Where Do We Go and How Do We Get There with LPG?" was presented by Robert Washburn of the Wedgewood Division, Rheem Manufacturing Co., on April 14. He was followed by Standard Oil Co.'s Dr. Oliver Johnson who demonstrated the physical properties of L. P. gas with emphasis on safety and then Harry Bowser, Servel Inc., who told the convention that dealers should sell their appliance products as fine products instead of using gimmicks and explained that it is "The Little Things that Make the Sale."

Outgoing president E. C. Brown addresses the Western Liquid Gas Association during the second day's luncheon. Others at the table (left to right) are keynote speaker Walter J. Kraus and newly-elected officers Mrs. Gussie Spears, president; A. B. Kamps, vice-president; and Jim Wilson, secretary-treasurer.

Forty manufacturers combined to host a cocktail hour which preceded a floorshow and dancing which followed the association's annual banquet. Newly elected officers in addition to Mrs. Spears include A. B. Kamps, Ripon, Calif., vice-president, and J. Wilson, Altaville, Calif., secretary-treasurer.

Wisconsin's third LPG school to be held in Oct.

The third L. P. gas Management school of the Wisconsin Association will be held at the University of Wisconsin, Madison, October 2-4.

Courses will cover: management's responsibilities, cost records, training employees, customer relations, business ethics, improving employee morale, collections, and merchandising sales.

According to Ralph T. Koeller, chairman education committee, instructors will not be confined to the University faculty, but in addition, men of national prominence in their respective fields are being obtained.

LPGA issues driver's safety manual

The LPGA safety committee has made available a driver's safety manual. This is a 16-page pocket size, cartoon sequence which emphasizes the high points of safe driving of LPG delivery vehicles.

The manual may be obtained from the Chicago office of the association at a nominal cost.

Butane Carter Propane

it's natural to link LPG with Carter

In the LPG industry, CARTER and unexcelled products are naturally associated. And there's a simple reason for it: CARTER'S LPG products *are* unexcelled . . . the result of more than twenty years' experience in the manufacture of highest quality butane and propane. This experience — gained by men interested in only the best — is yours when you buy LPG from CARTER.

THE CARTER OIL COMPANY
TULSA, OKLAHOMA

BPN

the trade

Executive appointments made by Motor Wheel Corp.

Sam Briggs

Sam Briggs has been elected vice president and director of appliance division sales of Motor Wheel Corp., it is announced by M. F. Cotes, president.

Prior to joining Motor Wheel, Mr. Briggs was a president of Reo Motors Inc. In 1954 he became general manager of Motor Wheel's Reo division, following its acquisition from Reo Motors. In his new post he is responsible for sales of both Duo-Therm and Reo products.

Mr. Cotes also announced the appointment of Vice President Karl Egeler to director of advertising and sales promotion of Motor Wheel Corp. He has been sales manager of Duo-Therm since 1950 and a vice president since 1952. He has been with the company since 1932.

Also announced was the appointment of L. C. Vandertill as sales manager of the appliance division. He has been sales manager of the Reo division, and prior to that was assistant sales manager of Duo-Therm.

Utility Appliance announces four promotions

Utility Appliance Corp., Los Angeles, announces the promotion of Stanley F. Skafte to the newly created position of director of engineering for all the company's products. Mr. Skafte, a director of the company, was formerly director of sales for the heating and air conditioning division. In his new capacity he will utilize his professional engineering background as well as his sales experience for all product engineering activities.

At the same time Ben B. Breslow, president of Utility, announced the following promotions: Charles F. Cushing, from merchandising man-

electric sparks

How to keep these two from getting together

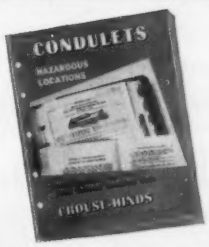
explosive vapors

L-P Gas storage tanks, pump rooms and filling areas are among the many industrial locations which the National Electrical Code has classified as hazardous areas. Explosion-proof electrical equipment is a "must" for these locations.

A Crouse-Hinds Field Engineer will be glad to look over your present plant — or your plans for a new one — to see whether your electrical apparatus and wiring conform to Code requirements. This Crouse-Hinds service costs you nothing and imposes no obligation.

FREE! Crouse-Hinds has prepared an 82-page booklet containing Articles 500 and 510 of the latest revised Code . . . explosive characteristics of various vapors and gases (including propane and butane) . . . pictures of installations of Crouse-Hinds explosion-proof equipment which meets Code requirements. *Mail coupon for your free copy.*

CROUSE-HINDS COMPANY



Crouse-Hinds Company
Dept. BPN, Syracuse 1, N. Y.
Please send free booklet on electrical equipment for hazardous locations (Bull. 2655).

Name .....
Title .....
Firm Name .....
Address .....
City ..... Zone ..... State .....

ager to director of sales, heating and air conditioning division; Richard J. Petersen, from chief engineer to manager of research and chief engineer, Utility divisions; Clifford D. Mohr, from senior engineer to chief engineer, range division.

Downing joins Trinity Steel as sales manager

L. D. Downing has been appointed sales manager for Trinity Steel Co. it is announced by Ray L. Reedy, vice president, sales.

Mr. Downing brings to Trinity approximately 13 years of experience with Bastian-Blessing Co. and Butler Manufacturing Co.

Friends of Mr. Downing can contact him at the Dallas plant of the company.

Servel promotes McCullough to development engineer

Wilfred W. McCullough has been promoted to development engineer for Servel Inc. it is announced by A. B. Kennison, vice president and coordinator of research and product development.

Mr. McCullough has been with Servel since September, 1942 and was supervisor of the quality control test laboratory prior to his current appointment.

His duties in the quality control laboratory will be assumed by Kenneth C. Hon, another 13-year man, whose promotion from group leader to assistant supervisor was announced simultaneously by E. J. Cassidy, director of quality control for the home appliance division.

Another appointment is that of A. A. Pieper, an accounting consultant who has held top financial positions with industrial firms in New York, Indiana and Illinois, to the position of controller.

Ann Glenn and Paul Roman appointed by Norge Division

Ann Glenn

Appointments of Miss Ann Glenn as Norge regional home service director in five states and Paul E. Roman as manager of market analysis for Norge division of Borg-Warner Corp. was announced recently by directors of the respective divisions.

Miss Glenn will work with 13 Norge distributor home economists in Pittsburgh, and Johnstown, Pa.; Grand Rapids, Detroit, Mich.; Cleveland, Columbus, Cincinnati, Toledo, and Dayton, Ohio; Indianapolis, Terre Haute, and Ft. Wayne, Ind., and Charleston, W. Va.

Miss Glenn was an appliance counselor for Duquesne Light Co., Pittsburgh, before joining Norge. Previous to that she was a home service director with G. E. Appliances Inc. and associated with Gimbel's department store, Pittsburgh.

Mr. Roman will be responsible for distribution and sales analysis, and will direct a staff engaged in the gathering and reporting of basic sales information.

Gulf Oil Corp. promotes Dodge to director of advertising

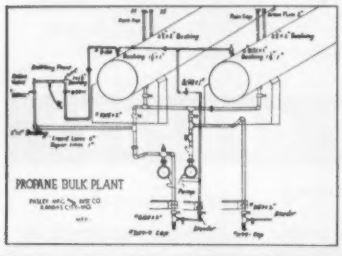
Formerly supervisor of retail layout and copy, for the Gulf Oil Corp. advertising department, B. W. S. Dodge has been appointed director of advertising for the company. The announcement was made by C. J. Guzzo, vice president of domestic marketing.

In his new position Mr. Dodge as-

Your One Supplier with everything in L. P. gas and Anhydrous Ammonia Equipment

PASLEY-BUILT Twin Barrel and Single Barrel Truck Tanks give you capacity loads at a minimum overhead. The custom-built, well engineered Twin Barrel — and Pasley-designed singles — can be furnished in any capacity. All Pasley units are engineered to your requirements, with operating features that have been developed in the field. Send us your specifications — we will submit quotations.

MAXIMUM PAYLOAD is possible with a Pasley-designed single or twin barrel TRANSPORT. The unit is constructed so the load can be easily shifted for different type tractors. If you require a Transport, contact Pasley.



SQS **BULK PLANTS**

Pasley LPG and Ammonia type installations are completely installed — a turnkey job — or we furnish you the necessary materials and engineering service for your own installation. There are over 200 Pasley-built bulk plants in operation. Contact us.

and a complete line of accessory equipment

"EVERYTHING IN LPG AND ANHYDROUS AMMONIA"

The Pasley Mfg. & Dist. Co.

601 East 11th Street • Kansas City, Mo. • Tel. Victor 2369

sumes direction of all of Gulf's newspaper, billboard, radio, television, and other advertising efforts, succeeding W. E. Dermody, retired.

Jones promoted to national sales manager for Motorola

H. A. Jones

Harold A. Jones has been promoted to national sales manager for Motorola Communications & Electronics Inc. it is announced by Daniel E. Noble, vice president.

Mr. Jones formerly was executive assistant to the national sales manager, Eugene S. Goebel, who recently was named vice president for market relations.

In his new capacity Mr. Jones will have responsibility for implementing sales policy as well as executing sales planning and sales promotion. The function also includes sales training, advertising and technical information services.

George Hickey becomes Brunner sales representative

George L. Hickey Jr. has been appointed a Brunner sales representative in the New York metropolitan area it is announced by Frank C. Hawk, vice president in charge of sales, Brunner Manufacturing Co., Utica, N. Y., and Brunner Co., Gainesville, Ga.

As sales representative for the affiliated companies, Mr. Hickey will be under the direction of J. W. Thomas, New York City district manager. His duties will include close cooperation with contractors in the area in the application of Brunner two-stage units for low temperature installations and also on air conditioning applications requiring units within the 100 hp range served by Brunner.

Buffington is comptroller for J. B. Beaird, Shreveport

For the past 12 years a comptroller of Silas Mason Co., New York, R. T. Buffington has been appointed comptroller for the J. B. Beaird Co. Inc., Shreveport, according to J. G. O'Brien, vice president and treasurer.

In his new capacity, Mr. Buffington will supervise inter-plant accounting procedures for Beaird's integrated manufacturing divisions producting L. P. gas and anhydrous ammonia storage systems, pressure storage vessels, packaged compressor plants and contract machining.

Two commercial vice presidents appointed by Worthington Corp.

A. William Fraser and Clarence S. Wentworth have been appointed commercial vice presidents of Worthington Corp. by the board of directors, Edwin J. Schwanhausser, president, announces.

Mr. Fraser, who has been Midwest regional sales manager of the company since 1951, is in charge of the district sales offices at Chicago, Denver, Kansas City, St. Louis and Minneapolis. His headquarters are at Chicago.

Mr. Wentworth is sales manager of the central region, with headquarters at Cleveland and responsibility for the district sales offices at Buffalo, Cincinnati, Cleveland, Detroit and Pittsburgh.

Another appointment is that of Charles D. Cummins to the position of district manager, Seattle office.

Since 1949 Mr. Cummins has been assistant district manager. In his

HIGH VOLUME

AT DIFFERENTIAL PRESSURES

UP TO

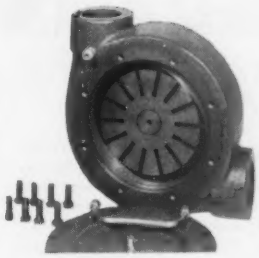
300 P.S.I.

Without Need For

Vapor Return Line

With Summer coming, you will have to work against high pressures. That's when the outstanding performance of "Superior" LPG Precision Rotary Pumps would really save time and money for you, by enabling you to fill tanks and cylinders faster.

This efficient pump is capable of high volume at low pump and engine speeds. It eliminates the use of vapor-hose, shortens delivery time, and lightens work. Easy to install. The base fits the average truck mounting without need for piping change. Available in 75 and 110 G.P.M. sizes. Write for descriptive folder and name of nearest Distributor.

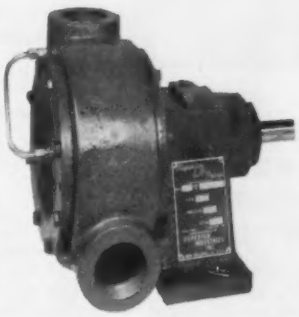


Superior

LPG

PRECISION ROTARY PUMP

The compact, light-weight Superior Pump has a two-lobed cam with double pumping cycle for each revolution. Within the rotor are 14 hydrostatically balanced, pressure-activated, self-adjusting and self-lubricating carbon vanes that provide positive pumping action. No metal-to-metal contact; no wear, except on the carbon vanes which can be replaced easily.



New Model TC

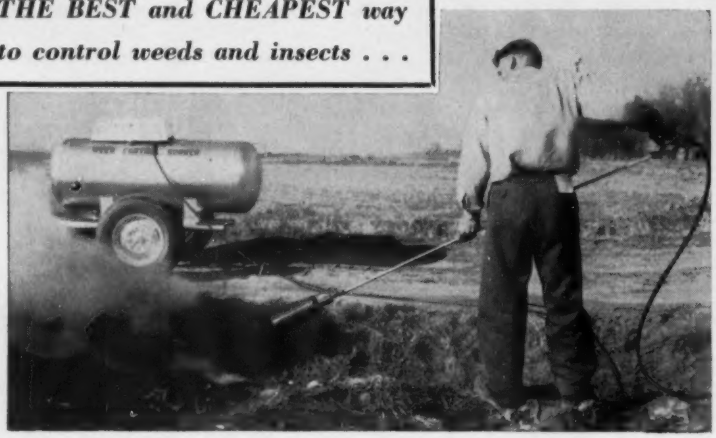
SUPERIOR INDUSTRIES, INC.

1007 National Bank of Commerce Bldg.

NEW ORLEANS 12, LA.

INQUIRIES INVITED FROM DISTRIBUTORS

THE BEST and CHEAPEST way to control weeds and insects . . .



Red Jet Weed Control Burner

USES LIQUID L. P. GAS — The Most Economical Burner Yet Designed.
- Uses Full Tank Pressure.
- Throws Flame 8 to 12 Feet.
- Flame Temperature 2500° Plus.
- Burns 12 to 25 Gallons Per Hour.

The RED JET Has Many Applications in Farm, Commercial and Industrial Uses!
- Kills All Annual Weeds.
- Kills Insects — Destroys Their Eggs.
- Prevents Reseeding.
- Decreases Labor Cost in the Fields.

Red Jet is the product of four year's experience in manufacturing weed control burners for use with liquefied petroleum gas.

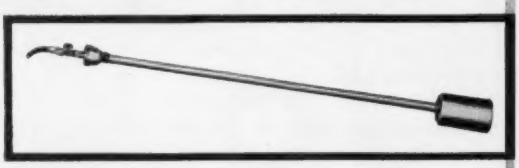
Manufactured by **NORTHWEST FABRICATORS**
NYSSA, OREGON

THE NEW *Weldit* MELTERAMA
WITH REPLACEABLE BURNER ORIFICE

The T-3 MELTERAMA, used with the Weldit 4826-D Safety Check or High Pressure Regulator, gives instant, clean, controlled heat for all melting operations. Incorporating base and burner into one unit gives Stability and Convenience, and Weldit's revolutionary replaceable Burner Orifice adds efficiency and longer life. High and Low Heat Control.

"DESIGNED FOR A MULTITUDE OF USES"

B-1 WELDING JET SUPERHEATING TORCH



Weighing only 3 lbs. and of steel construction, the B-1 operates off of any standard propane tank at tank pressure. Length, 40½". Consumption, 26 lbs. per hour. Produces 653,800 B.T.U.

Weldit INC. • 990 OAKMAN BLVD. • DETROIT 6, MICH.

CALENDAR

Coming events in the Industry

June 3-5 — Butane-Propane Institute of Louisiana Annual Convention — Roosevelt Hotel, New Orleans.

June 4-8—National Fire Protection Association 60th Annual Meeting — Hotel Statler, Boston, Mass.

June 4-June 29 — Short Course in Gas Technology — North Carolina State College, Raleigh.

June 8-9 — Colorado LPGA Convention and Trade Show—Hotel Colorado, Glenwood Springs.

June 10-12—Arkansas L.P. Gas Association Annual Convention — Arlington Hotel, Hot Springs, Ark.

June 11-14—L. P. Gas Short Course, Third Annual, University of Kentucky.

June 14-15 — North Dakota LPGA Convention — Gladstone Hotel, Jamestown, N. D.

June 17-19—Alabama Sales Clinic—Thomas Jefferson Hotel, Birmingham, Ala.

June 18-20—Missouri L.P. Gas Association 11th Annual Convention and Trade Show — Muehlebach Hotel, Kansas City, Mo.

June 20-22 — Southwestern Butane Exposition (Texas Butane Dealers Association)—Dallas.

June 21-22 — Minnesota Petroleum Gas Association—Edgewater Beach Hotel, Detroit Lakes, Minn.

June 28-29—Central States L. P. Gas Management Conference—University of Kansas, Lawrence, Kan.

June, 1956—Alabama L. P. Gas Carburetion School—Birmingham, Ala.

July 2-3 — Wyoming LPGA Annual Meeting — Wort Hotel, Jackson, Wyo.

All associations are invited to send in dates of their forthcoming meetings for this calendar.

July 8-10—Tennessee LPGA Annual Convention — Look Out Mountain Hotel, Chattanooga, Tenn.

July 9-August 4 — Short Course in Gas Technology (2nd section) — North Carolina State College, Raleigh.

July 20-21 — South Carolina LPGA Convention, Charleston, S. C.

July 22-24 — Kentucky LPGA Convention and Trade Show—Phoenix Hotel, Lexington, Ky.

August 1-3—Central States L. P. Gas Service School—University of Kansas, Lawrence, Kan.

Aug. 5-7—Alabama LP Gas Association Convention — Dinkler-Tutwiler Hotel, Birmingham.

Aug. 5-7 — West Coast L. P. Gas Association Convention and Trade Show—Sheraton-Palace Hotel, San Francisco.

Aug. 19-21—New Mexico LPGA Annual Convention and Trade Show—Hilton Hotel, Albuquerque, N. M.

Sept. 16-18 — Ohio LPGA Annual Convention and Trade Show — Cleveland Hotel, Cleveland.

Sept. 17-18—Virginia LPGA Annual State Convention—Ingleside Hotel, Staunton, Va.

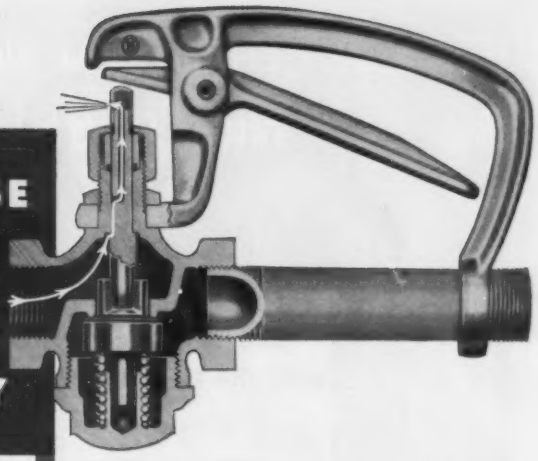
Oct. 2-4—LPGA Management School —University of Wisconsin, Madison, Wisc.

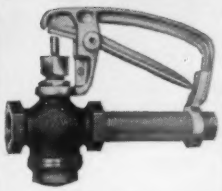
Oct. 15-17—AGA Annual Convention —Auditorium, Atlantic City.

1957

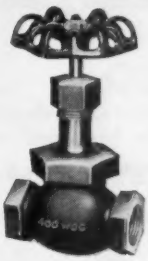
March 10-12—Indiana LPGA Trade Show and Convention — Claypool Hotel, Indianapolis, Ind.

DISPENSE LP-GAS SAFELY, QUICKLY





No. 8009
LPG QUICK-OPENING GLOBE VALVE



No. 8001-LPG GLOBE VALVE

Safeguard Design Directs Hose Back Pressure Away from Operator

This Ohio Brass valve was designed to bleed off trapped LP-Gas slowly and harmlessly, in a direction *away* from the operator's hand.

The O-B No. 8009 has a special escape port in the stem. When the lever presses against the stem, no gas can escape. But after the LP-Gas is dispensed and the lever released, gas trapped in the line escapes through the port which is aimed away from the operator's hand.

Both the No. 8009 and its companion globe valve have been listed by Underwriters' Laboratories for use on LP-Gas. The No. 8009 comes in three sizes — ½, ¾ and 1-inch. The No. 8001 Globe and companion angle valves are available in a complete size range from ⅛ through 3 inches.

For additional information on Ohio Brass valves for LP-Gas service, send for Bulletin 1345-V.

Ohio Brass

MANSFIELD OHIO, U.S.A.

4689-V

Here's why you can get results from B-P News Classified Ads

Your classified ad in B-P News will be seen in 9,013 different LPG plants . . . the *only* complete coverage of your major market in the LPG industry.

Best evidence of results is the fact that for 17 consecutive years, advertisers have placed more advertising in B-P News than in any other LPG media.

Deadline for copy is the 5th of every month preceding publication month.

BUTANE-PROPANE News
198 South Alvarado St., Los Angeles 57

Turn On the
HEAT WAVE
with
Martin Gas Heaters
Sell Greater Warmth
and Greater Satisfaction
with the Complete Martin Line
Vented Space Heaters
8 models—15,000 BTU to 85,000 BTU
Vented Floor Furnaces
3 models—35,000 BTU to 70,000 BTU
Vented Wall Heaters
5 models—25,000 BTU to 60,000 BTU
Unvented Space Heaters
23 models—10,000 BTU to 50,000 BTU
Every Martin Gas Heater is AGA approved for natural, liquefied and manufactured gases.
V-300
*Wall heaters approved under 1956 AGA requirements
Write your jobber or direct for complete catalog.
Manufactured by
MARTIN STAMPING & STOVE CO.
Huntsville, Ala. Over 50 years heater experience
MARTIN

MILLERS FALLS CO.
MILLERS FALLS, MASS., Makers of hand tools, electric tools, hack saw blades, precision tools for home and industry.
One of the many satisfied users of
Paracoil LP Gas
vaporizers SERIES 48E
STANDARD PRODUCTION MODELS TO 6000 GP.H.
DESIGN: ASME STAMPED, PAR. U-69, N.B.F.U. PAMPHLET 58
Installed for Millers Falls Co. by
H. E. EMERSON THOMAS & ASSOCIATES, INC.
P.O. Box 270, Westfield, New Jersey
Please write for data and prices to
DAVIS ENGINEERING CORPORATION
1058 East Grand St., Elizabeth 4, N. J. • 30 Rockefeller Plaza, New York 20, N. Y.

new capacity he succeeds E. D. Schively who has accepted a special assignment in Worthington's new Canadian operation.

The Seattle district office maintains a branch office at Portland, Ore., in charge of Norman E. Wolfe; and a sales operation at Spokane under Harley M. Yake.

Three new managers announced by Pyrofax Gas Corp.

Otto Neustadt

Pyrofax Gas Corp., a unit of Union Carbide & Carbon Corp. announces the appointment of Otto Neustadt as general sales manager, Donald G. O'Meara as sales manager, and Richard B. Barker as advertising manager.

The post of general sales manager is a newly created one. Mr. Neustadt who joined the company as a clerk in 1931, served as service engineer, sales representative in the middle west, district field manager in North Carolina from 1948 to 1952, as assistant sales manager from 1952 to March 1, 1955, and sales manager since that time.

R. B. Barker
Adv. Mgr.

D. G. O'Meara
Sales Mgr.

Mr. O'Meara joined the company in 1935 as a sales correspondent, and was named assistant advertising manager in 1939, advertising manager in 1946, and advertising and sales promotion manager in 1951.

Mr. Barker joined the company as an advertising assistant in 1950. He was named assistant advertising manager in 1953.

Janitrol Division appoints Williamson sales engineer

Ola E. Williamson has been appointed sales engineer for the Janitrol Heating & Air Conditioning Division, Surface Combustion Corp. it was announced recently.

Mr. Williamson will represent the Janitrol line of residential, commercial and industrial heating and cooling equipment in the states of Nebraska, Kansas and the Dakotas. Prior to joining the company, he was the owner of his own heating and air conditioning contracting firm in Omaha.

Gault general sales manager for Robertshaw-Fulton

M. B. Gault

M. B. Gault has been appointed general sales manager of the cooking appliance controls division of Robertshaw-Fulton Controls Co.

Mr. Gault succeeds Frank H. Post, who was recently appointed vice president and general manager of the Robertshaw-Thermostat Division. Mr. Gault's headquarters will be at the executive offices of the company at Greensburg, Pa.

In nearly 20 years' service with the company, Mr. Gault's experience has included production and service training as well as sales work. Since 1954 he has been supervisor of sales of gas appliance controls for cooking applications.

Dunleavy promoted to district sales manager, John Wood Co.

J. Dunleavy

Appointment of Jerry Dunleavy as district sales manager for Arkansas, Louisiana, Mississippi and Texas with headquarters in New Orleans was announced recently by George W. Meehan, vice president and western sales manager, Heater & Tank Division, John Wood Co.

Mr. Dunleavy has been with John Wood Co. for six years, barring interruption of service during the Korean War, either in New York or New Orleans, where he has headquartered for the past two years.

Barkmeier joins Borg-Warner as director of marketing services

Formerly a vice president of Radio Corp. of America, Paul A. Barkmeier has joined Borg-Warner Corp.

Extra-Handy...and tough all the way through!
Every RIDGID Pipe Tool TESTED Individually before shipment
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in the newly created position of director of marketing services.

Associated with RCA from 1948 to 1955, Mr. Barkmeier became a vice president in 1950 and was appointed general manager of the RCA Victor record division. Three years later he was named vice president and director of distribution for all products.

In 1954 he became president of RCA Estate Appliance Corp., which was later merged with RCA and reorganized as a division. Following this, he became vice president and the division's general manager, his last post with the corporation. A few months ago the division was taken over by the recently organized Whirlpool-Seeger Corp.

Worthington becomes sales manager for Charles Machine

H. Worthington

Howard Worthington has been appointed sales manager for the Charles Machine Works, Perry, Okla., according to Edwin Malzahn, general manager of the company.

Mr. Worthington has been manager of the water pump division of Reda Pump Co., Bartlesville, Okla., since 1950 and has a broad background in engineering merchandising and marketing.

ACF appoints Rogge executive vice president

Herbert H. Rogge has been appointed an executive vice president for American Car & Foundry Division, ACF Industries Inc., it is announced by Samuel M. Felton, president.

Mr. Rogge has spent his entire business career with Westinghouse Electric Corp., and Canadian Westinghouse Co. Ltd., starting in 1922. He became president of the company in 1950, from which position he resigned to join ACF.

Milwaukee Valve names Kovich general manager

Frank Kovich was recently appointed general manager of the Milwaukee Valve Co. He is also the vice president of Controls Corp. of America and the director of manufacturing of the A-P Controls Division.

This announcement comes from Louis Putze, president of Controls Corp. of America. The Milwaukee Valve Co. is a subsidiary of Controls Corp.

Turner named vice president for Western Tank & Steel Corp.

A. J. Turner

The appointment of A. J. Turner to the office of vice president for Western Tank & Steel Corp. was announced recently by John Alexander and Al Costanzo, executive officers of the company.

Mr. Turner will continue to head the engineering department of the firm, which manufactures motor fuel and tractor tanks.

He is a certified licensed engineer and has had an extensive career in the L. P. gas industry throughout the nation.

Cleveland V. McConnell

Cleveland V. McConnell died at Mansfield, Ohio, March 25 following an extended illness. He was a former vice president of the Tappan Stove Co. and a member of the board of directors.

Joining Tappan in 1925 as district sales manager, Mr. McConnell became sales manager in 1927 and vice president of the firm in charge of sales in 1945. He retired in 1951.

Douglas Wood Binns

Douglas Wood Binns, 73, Nashville business leader and president and chairman of the board of Phillips & Buttorff Manufacturing Co. died at his home on March 26 after an illness of several weeks.

Mr. Binns was elected president and chairman of the board of Phillips & Buttorff in 1927, eleven years after he was selected to fill a vacancy on the board created by the death of H. W. Buttorff.

In 1918 he became sales manager, and the following year was made a vice president.

As an executive of the company, he directed its changeover from wood and coal burning equipment.

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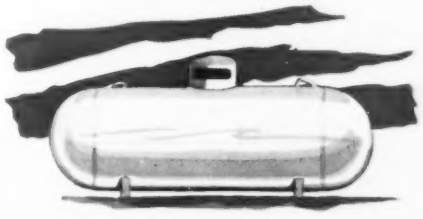
Why buy less when you can get the big 5 . . . contact your Beaird Representative today or write direct to a Beaird factory for an authorized distributor plan.



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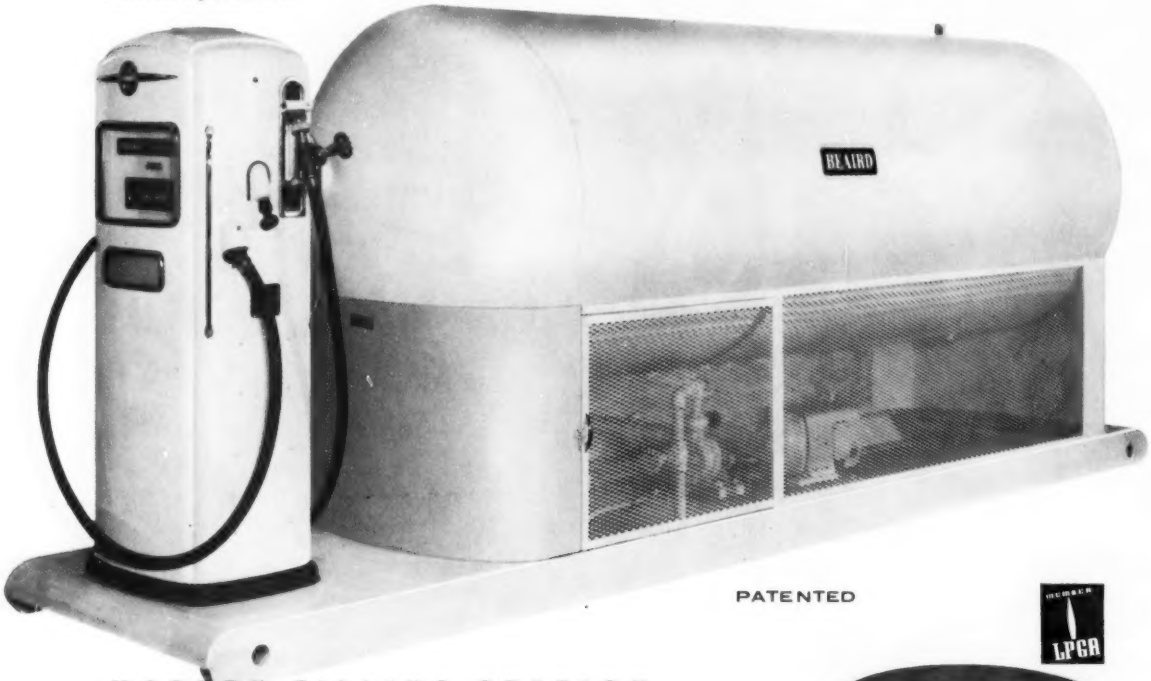

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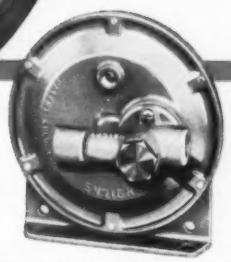

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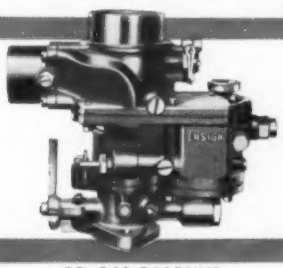

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COMBINATION CARBURETOR
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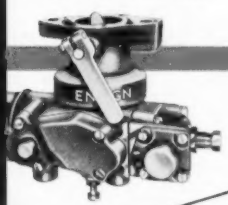
MGI GAS CARBURETOR
¾ AND 1 IN. SAE



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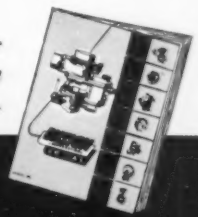

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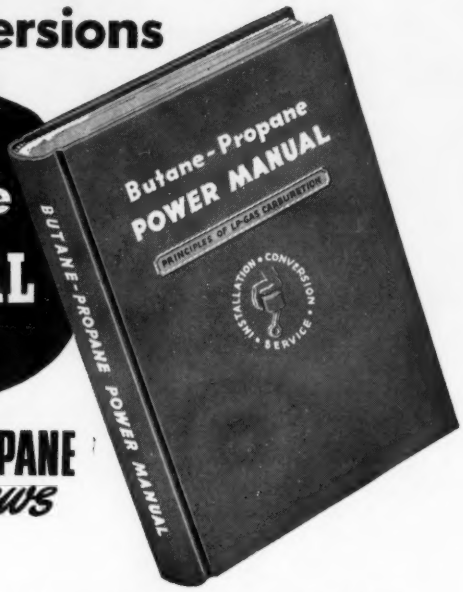

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4. Factors Affecting Operating Economy and Power
5. L.P. Gas Carburetion Systems
6. Regulating Gas Pressure and Temperature
7. Fuel Supply System. Vehicle Tanks and Equipment
8. Natural Gas Carburetion
9. Planning the L.P. Gas Installation
10. Checking the Engine's Condition
11. Raising the Compression Ratio
12. Cooling the Intake Manifold
13. Ignition Problems
14. Tractor Conversions
15. Truck and Bus Conversions
16. Passenger Car and Taxicab Conversions
17. Industrial Engine Conversions
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19. Manufacturers' Instructions for Adjusting L.P. Gas Carburetors
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21. Trouble Shooting
22. Safe Storage and Handling of L.P. Gas
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Appendix (including Definitions)

Here is the first authoritative guide ever published for the rapidly expanding LPG power market. Basic facts of engines, fuel, and power are given in easy-to-understand language; then careful directions and clear illustrations take you step-by-step through installations, conversions, servicing . . . *everything* needed in a practical working manual for practical men.

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The big squeeze-type forks are capable of handling the entire stack of goods without damage to cartons.

Leading paper company converts fork lifts

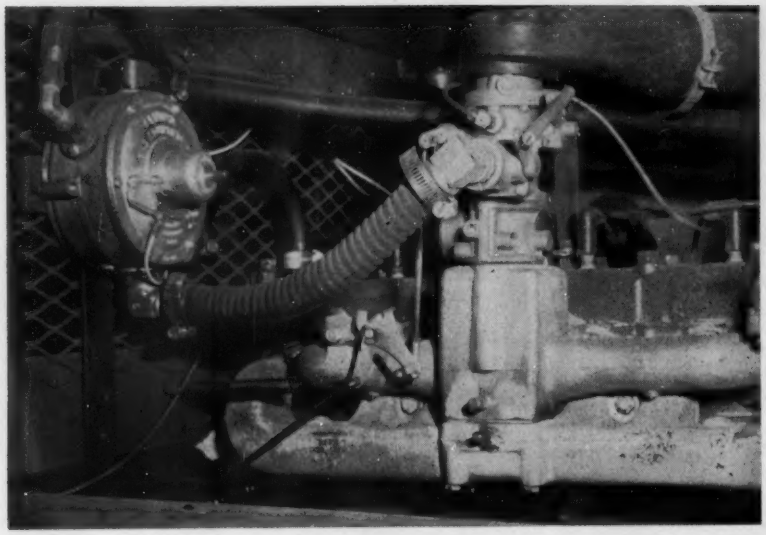
Eight of Crown Zellerbach's units showing different lift attachments to meet specific jobs. Savings on LPG have warranted addition to the fleet.

CROWN ZELLERBACH CORP., one of the world's largest manufacturers of paper and paper products, has solved several critical problems, and saved money by doing so, at its new processing plant and warehouse at San Leandro, Calif., by changing its entire fleet of fork lift trucks from gasoline to L. P. gas.

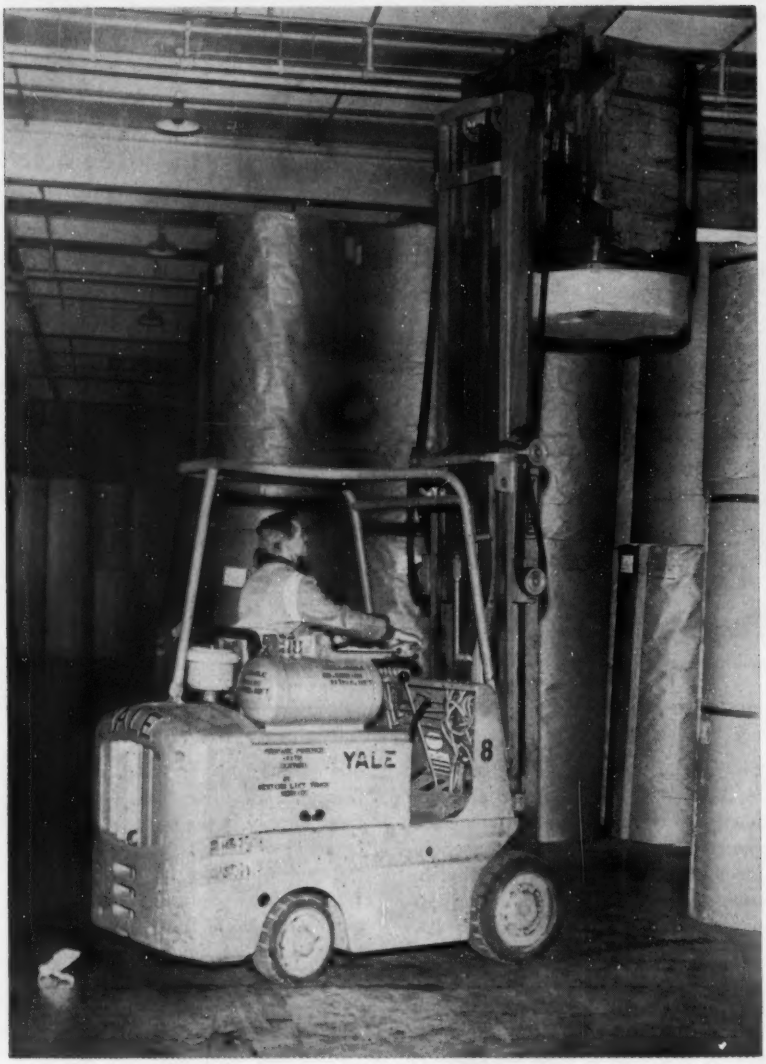
Fire is a constant hazard in a paper warehouse, and the presence of gasoline-fueled power equipment always presents the possibility of spillage or dripping of liquid fuel. This has been eliminated by the change to propane, partly by the extreme safety precautions taken in the installation of devices to prevent leakage, and by the use of fuel tanks large enough to operate the trucks through a full day's service.

Filling is done once each day, at a dispenser located near the company's standby storage tank in a remote corner of the yard. With the gasoline trucks used in the company's previous plant, "out of gasoline" was a frequent condition, and putting a fresh supply in the tank on the warehouse floor resulted in dripping on the hot manifold or on the floor. While it was preferable to take the truck outside for the refill, this could not always be done. The practical solution was reached when converting to propane through the use of the larger quantity of fuel.

With the completion of the new processing plant and warehouse, the



Here is a typical installation on a Yale Lift at Crown Zellerbach. All equipment is easily accessible.



Paper rolls ranging from 400 to 1800 lb are handled with ease.

company procured two factory-equipped fork lifts to supplement the original gasoline fleet and provide enough transportation equipment for the enlarged operation. Several advantages of these trucks soon became apparent to William Bankhead, who is in charge of the operation of these factory vehicles.

The power and acceleration were definitely better than in similar vehicles operating on gasoline, and they did not undergo power loss from the accumulation of sludge and gums induced by the high percentage of idling time. Down-time for carburetor repairs was decreased, which resulted in a saving of maintenance cost. Oil consumption was less and drainage periods were less frequent, because the oil stayed clean for long periods. This resulted in less frequent need for major engine clean-outs and repairs. These advantages showed up unmistakably in the comparison charts which Mr. Bankhead kept on these two LPG trucks and two gasoline trucks of similar size and in identical service.

It also became apparent that the drivers preferred the LPG trucks, and "worked the angles" to get to use them. Both drivers and other personnel noticed the absence of irritating exhaust fumes.

With the initial success of the two factory-equipped LPG jobs showing clearly in the records and the unmistakable preference of the drivers and other employees, Western Lift Truck Service Co., of Hayward, Calif., was commissioned to convert two of the gasoline jobs for a test run of 60 days. Before this time had expired their superior operation convinced the management that the entire fleet should be changed to L. P. gas.

Century carburetion units were used on all the converted fork-lifts. Difficulty in maintaining adjustments on the carburetors on the factory-equipped jobs later led to their change to Century units also, so the entire fleet is now uniform.

Crown Zellerbach has many other factories, mills and warehouses in the United States and abroad where this test will have a potent effect in determining future fuel policy. ■

Tugs are at work at Delta's field in Miami almost all the time and in a variety of ways. Here, tug is used to tow plane to parking position in hanger area.

Delta converts Miami ground equipment

By Edward G. Dickson

DELTA Air Lines is converting its airport ground equipment at its Miami station from gasoline to propane to attain a savings in fuel costs and lowered maintenance time estimated at $350 a year per vehicle.

The equipment being converted includes four ever-present tugs, used for many jobs such as positioning aircraft in the ramp area or towing baggage carts; three "energizers" or mobile electric-generator units to provide ground power for aircraft to relieve the plane's electrical system; a truck for field errands such as hauling mail loads to and from the airport post office; and a fork lift which Delta utilizes to raise loads of baggage up to the level of the plane's luggage compartment.

This is the first use of L. P. gas for ground equipment power at Miami's busy International Airport, and Delta is believed to be the pioneer among U. S. airlines in putting propane to this purpose.

The decision to convert equipment at Miami followed a similar decision at Atlanta, the headquarters of the Delta system, which has routes reaching to midwest, southwest, southern and eastern airports in the U. S., and into Latin America.

At Atlanta, a test was run on a converted vehicle for five months in cooperation with the General Gas Corp., Baton Rouge, La., and the Ensign Carburetor Co., Huntington Park, Calif.

According to H. A. Petty, technical assistant to Delta's superintendent of maintenance, the results were:

Fuel Consumption

Gasoline ..... .77 gal. per hr
Propane ..... .73 gal. per hr

Oil Contamination

Gasoline — Normal, dirty, changed at 3-week check.
Propane — Clean, no discoloration, changed at 18-week check.

Spark Plugs

Gasoline — Normal, lead and additive fouling.
Propane — Clean, no sign of fouling, no accumulation of any nature.

"After conclusion of the test run on propane fuel the results were studied," Mr. Petty reported, "and based on these results, it was decided to convert all baggage tugs and ground power units at the Atlanta airport to propane to secure the benefits of this fuel."

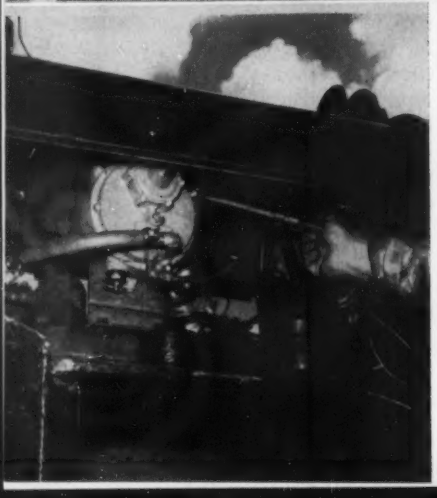
The company decided to extend the conversion program as quickly as possible to ground units at Miami, New Orleans and Dallas and, according to Mr. Petty, "all points on the Delta system which prove to be economically feasible will be considered for conversion."

Once the Miami conversion was ordered, the company invited bids from L. P. gas dealers and Miami Bottled Gas Inc., which has an automotive and carburetion division, was awarded the contract to supply the fuel.

Because the installation was of a new type to authorities at International Airport, there were discussions as to the storage system to be allowed. The port authority gave approval to either an underground storage tank or to an aboveground tank which would be stationed outside any buildings.

The aboveground tank was selected and Miami Bottled Gas, with Robert Brenner, general superintendent of operations, handling the project, designed a trailer-mounted 1000-gal. portable tank. The centrifugal pump for this tank is powered by electric current which may be obtained by a line plugged in at the various nonsmoking areas of the field.

Shortly after Delta made its gas installation, Mr. Brenner interested maintenance officials at Pan American World Airways hangers nearby in installing a similar storage tank for a trial on propane as ground equipment fuel which that airline was contemplating.



1. Biggest savings from propane conversion are expected to result from decreased maintenance on energizers, self-propelled electric generator units to provide ground power for the aircraft. Unit, being disconnected here, runs as much as eight to twelve hours a day.

2. Propane-powered fork lift is used at Delta station in Miami to lift baggage to level of plane's baggage compartment. Baggage can be loaded on fork lift at passenger terminal and hauled to plane, then raised to compartment height.

3. H. H. Stonaker, in charge of automotive maintenance for Delta at its shops at Miami International Airport, fills tug's tank from portable storage tank.

4. Photo shows where regulator was installed to convert Delta tug to propane. Identical conversion equipment is being used on all Delta vehicles being switched to LPG.

Pan American began its test with three different types of carburetors installed on three energizers with a view toward conversion to L. P. gas of more than 80 water-cooled vehicles used for various purposes at PAA's huge maintenance base, the overhaul center for aircraft in trans-Atlantic and Latin American services. If the tests prove satisfactory, it is expected that PAA will convert motor-generator units, tugs, fork lifts, platform trucks and stationary engines to propane.

The Delta conversions at Miami were made by company personnel on a schedule of two vehicles a week. H. H. Stonaker, automotive maintenance man who also is an aircraft mechanic, handled the installation under the direction of Charles Broyard, Delta's maintenance chief at Miami.

Conversion kits, including Ensign Model XG gas carburetor and Model W regulator, were supplied by Delta headquarters.

"The same conversion kit will be used for all equipment," Mr. Petty said. "As can be seen, this system of standardization provides a ready exchange of parts from a centrally-located stock room.

"The estimated cost of conversion for each piece of equipment including labor is $176.09," Mr. Petty added. "This cost is amortized in approximately six months of operation out of savings in fuel cost and increased engine and spark plug lives. Savings per year per unit will be approximately $350."

At Miami, the first tug to be converted was found to run about seven hours on one tank of propane, Mr. Stonaker reported.

Greatest value at the Miami station, and presumably at other points, too, will be in the operation of the energizers. These units are self-propelling vehicles which contain an electric generator powered by an industrial engine.

They are used to provide electric power for the aircraft while it is on the ground, to save drain on the plane's electrical system. This includes power for maintenance work, cleaning, lighting and other electrical uses between flights, and for power to start the engines when the plane is readied for take-off.

These energizers operate as much as 8 to 12 hours each day, and rapidly accumulate engine deposits when fueled by gasoline. Delta representatives believe the biggest saving from propane use will show up here in the decreased maintenance costs.

In line with this feeling, Mr. Petty said that "Delta's decision to change to propane fuel for non-load bearing ground equipment was primarily caused by difficulties encountered with ground equipment with accumulations in the combustion chamber, intake and exhaust manifolds of the engine. This accumulation was directly responsible for a high percentage of overhaul cost and spark plug removals."

At Atlanta, the ground equipment was not overhauled before being converted, he said, "and it is interesting to note that following the second oil change a decided change in oil color and cleanliness was noted.

"Subsequent inspections reveal that the engnie has purged itself of sludge accumulations and has now been placed on the regular 18-week oil-change schedule."

It is believed that Delta Air Lines was the pioneer in this field so far as air lines are concerned. Delta is indebted to its many friends in the LPG industry for their help and encouragement during the test run and as the company attempts to expand and consolidate its gains. ■

Insurance for Industrial truck conversions to LPG

We continue to receive reports of adverse attitude of insurance company representatives toward the conversion of gasoline powered industrial trucks to L. P. gas. Cases with which we have come in contact give us a rather different viewpoint of the matter. The insurance people in these cases have merely been careful, insisting on certain built-in safeguards in the conversion equipment, and certain reasonable precautions in connection with where the trucks might be used.

We do not believe there is any essential conflict between the interests of the man who wants to apply conversion equipment and the man who represents the money that will be paid in case the property involved should burn down with or without the aid of L. P. gas. There can be considerable difference of opinion on the precautions that should be observed to prevent any such fires, with the insurance man understandably on the conservative side.

The Factory Mutual engineering division is looked upon as the authority by most of the other insurance companies carrying this kind of risk. They have been quoted, misquoted, and misunderstood. In order to clear the record, and to make the facts available to all LPG dealers working on industrial truck conversions, we reproduce herewith the Factory Mutual engineering division bulletin on this subject. (DS 7-46, March 1955 supplement to bulletin No. 11.24).

THE use of liquefied petroleum gas as a fuel for internal combustion engine powered industrial trucks is increasing among users of this type of material handling equipment. Among the advantages claimed for this fuel are: longer engine life, less frequent replacement of lubricating oil, less maintenance, and less carbon monoxide in the exhaust gases. In some areas the fuel cost is lower. These advantages are best realized in an engine designed specifically for L. P. gas.

Factory equipped trucks using L. P. gas are available from some manu-

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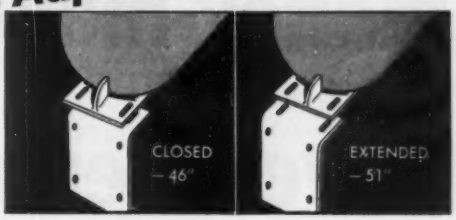

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POrter 5-9474 Box 1338 Lubbock, Texas

Rolling 64,000 lbs. gross . . .

makes Reo's "Big V" a real money-maker for Matlack driver Reuben E. Wenger, Jr.

A heavy-duty tractor driver with twenty years experience, Mr. Wenger has owned his own rigs for the past ten years. In 1947 he bought his first Reo and now, 300,000 miles later, it is still bringing in its share of profits. His Reo A-703 is powered by a Reo "Big V" 220 h.p. Gold Comet V-8.
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L-325
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MATLACK
INC
LIQUID TRANSPORT

Look at REO . . .

SUBSIDIARY OF **BOHN** ALUMINUM & BRASS CORPORATION

. at 5 miles per gallon

"Reo's combination of power, rugged construction, gas economy and light empty tractor weight is really a money-maker for me," says Reuben Wenger, Jr., driver-broker for E. Brooke Matlack, Philadelphia.

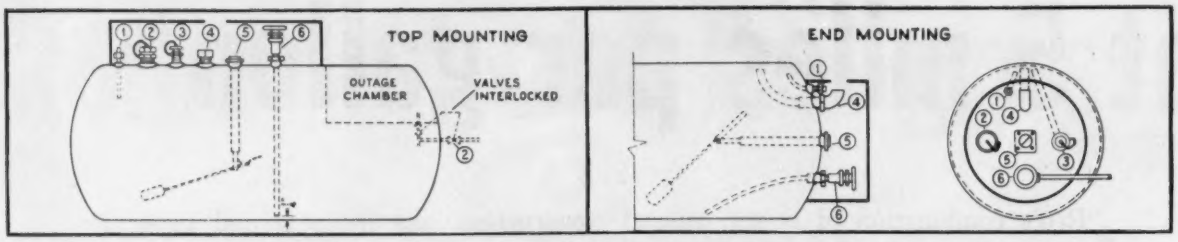
"This year I purchased a Reo V-8 Model A-703. My only maintenance expenses have been regular oil changes, lubrications and one set of spark plugs. I haul an 8,000 gallon L.P.G. tank-trailer. *Grossing 64,000 pounds plus, I've averaged right at 5 miles per gallon of gas.*

"I have never before driven a tractor which has had such power, such excellent handling and riding qualities and such economy."

Actual on-the-job performance like this, plus Reo's famous *100,000 mile or 1 year warranty* are your assurance that a Reo will do your job better—more profitably—than any other truck you can put to work for you. See your Reo Branch or Distributor today!

for PERFORMANCE . . . and ECONOMY!

LANSING 20, MICHIGAN • TORONTO, ONTARIO



Fuel tank fittings. With top mounting, provide either outage chamber or fixed length dip tube so that adequate space for liquid expansion will be allowed. (1) Fixed length dip tube. (2) Filling connection. (3) Vapor return valve. (4) Safety relief valve. (5) Liquid level gauge. (6) Liquid withdrawal valve.

facturers of industrial trucks. Several models are being examined and tested for approval by the Factory Mutual Laboratories.

The use of L. P. gas powered industrial trucks introduces the potential hazards of a combustible gas at high pressure. The principle hazard is the possibility of opening the relief valve on the fuel container. This may occur as a result of overfilling because of lower ambient temperatures at the filling point than inside the plant. Operation of the relief valve can also be caused by the high temperatures encountered near ovens, furnaces, and oher high temperature equipment. There is the possibility of leakage from poorly maintained carburetor equipment and from the frequent making and breaking of connections during refueling. For the foregoing reasons L. P. gas powered trucks are considered generally to be more hazardous than gasoline powered trucks.

The hazards of L. P. gas powered trucks cannot be eliminated completely by safeguards. Therefore, limitations on locations in which they may be used are recommended. These use limitations should be rigidly observed and all recommendations regarding use, operation, maintenance and conversion should be fully complied with if fires and explosions are to be avoided.

Recommendations

1. Limit the use of L. P. gas powered trucks to the locations specified as suitable for gasoline engine powered trucks in the table on page 5 of Data Sheet 7-46 (Bulletin 11.24).

Operation and maintenance

1. Avoid exposing L. P. gas powered trucks to high temperatures near ovens, furnaces, and other sources of high temperature. Do not allow trucks to remain standing near such equipment for other than extremely short intervals. Never leave them unattended near ovens and furnaces.

2. Establish a good preventive

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for

BEAM BUTANE-PROPANE CARBURETION EQUIPMENT

LP-GAS CARBURETION

Long recognized among the leaders in carburetion conversion, and simplest of all to install, BEAM's record of trouble-free service has established it both as easy to sell and easy to keep sold.

Increases engine life 3 to 4 times.
Reduces engine wear to a minimum — triples the time between engine overhauls.
Completely eliminates oil dilution and contamination.
Gives a plentiful reserve of smooth, constant power.
Actually safer than conventional carburetion and fuel.

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Formerly THE PARKDALE CO.

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REGULATORS · CARBURETORS · SOLENOID VALVES

maintenance program with frequent inspections. This is essential to avoid creating hazardous conditions as a result of the escape of the L. P. gas fuel.

Storage and repair

1. Provide an outdoor shelter or a detached or cut off (walls of 1-hour fire resistance rating), sprinklered, garage for storage of trucks during idle periods and for repair of trucks. The garage should have positive mechanical ventilation from floor level.

2. Trucks having deplaceable fuel tanks may be stored during idle periods in indoor locations without the safeguards enumerated above provided the fuel tanks are removed and stored in an outside or other suitable location. Follow the operating procedure below for refueling.

Refueling

1. Refuel trucks having permanently mounted fuel tanks out of doors at a location:

a. At least 50 ft from important buildings.

b. At least 15 ft from storage tanks at the end farthest from the relief valve.

2. Replaceable fuel containers may be exchanged indoors at least 25 ft away from open flames or other ignition sources if prior to disconnecting the empty tank, the fuel supply is shut off at the tank and the engine operated until all of the fuel in the fuel system is consumed.

3a. Permanently mounted fuel tanks should not be filled beyond the maximum fiilling capacity according to the following temperatures at filling point:

80% of liquid capacity between 10° and 40° F.
85% of liquid capacity between 40° and 70° F.

b. ICC replaceable containers should be filled by weight in accordance with ICC regulations.

4. Locate storage tanks up to 1200 gal. water capacity used for refueling trucks having fixed fuel tanks at least 50 ft from important buildings. Locate larger tanks as outlined in Factory Mutual bulletin 11.45 (data sheet 6-10) "Liquefied Petroleum Gas."

5. Transfer L. P. gas by liquid pumping as outlined in Factory Mutual bulletin 11.45 (data sheet 6-10) "Liquefied Petroleum Gas."

Conversion to L. P. gas fuel

It is possible to convert practically any gasoline powered industrial truck to L. P. gas, and kits are available for this purpose from various manufacturers of carburetion equipment and from truck manufacturers. The equipment usually consists of a special carburetor or carburetor adapter, vaporizer-regulator, fuel tank, fuel lines, shutoff valves, relief valves, etc.

Insurance bulletin

1. Factory Mutual approved L. P. gas powered trucks are recommended in preference to converting gasoline powered units where existing gasoline powered equipment is in excellent condition, conversion to L. P. gas fuel is acceptable provided the conversion equipment satisfies fully the recommendations contained in this addendum. Detailed plans and specfications for the conversion

There's a difference you can SEE

with Santa Fe "Custom-Built" Tanks

400 Farmall Tractor converted using Santa Fe Cat. No. F-38 Cross Mount Tank (38 Gal. W. C.)

..... matter of fact, you can see many important differences in the revolutionary new Santa Fe cross mount tank for the popular 400 Farmall tractor. You can tell at a glance there's far greater visibility for the driver . . . and a "built in" appearance that sets a new standard for tractor conversions. Improved filling speed is apparent in the forward placement of the filler and vapor return valves. Even the mounting of the liquid level gauge spells convenience.

There are some differences you can't see, too. One is the speed of installation. It's easily made with the hood cut out templates, rubber trim and complete diagrams and installation instructions supplied with each tank. Another is the quality construction, experience and integrity built into every Santa Fe tank. Added together these differences assure true satisfaction for you . . . and your customers. Write today for complete specifications and prices on this outstanding tank for the I.H.C. 400 Farmall tractor, or our similar design for the I.H.C. 300 Farmall.

Santa Fe ENGINEERING & EQUIPMENT CO.

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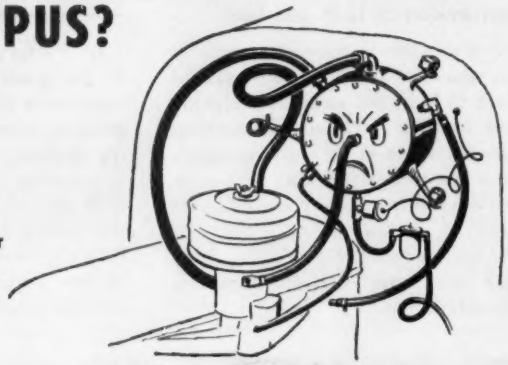
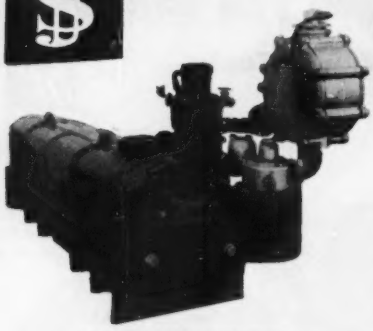
EVER TANGLE WITH AN OCTOPUS?

- Too many lines
- Holes to drill
- Wires to install
- Bracket to make
- Big, heavy filter
- Expensive carburetor
- Replace air cleaner



COMPARE J&S ENGINEERED KITS



- Quick, easy installation
- Only ONE hose to carburetor
- No extra water hoses
- No mounting holes to drill
- No bracket to make
- No solenoid valve or primer required

J&S CHEVROLET KIT

SANDWICH ADAPTER slips into middle of carburetor, affording low cost conversion to combination gas-gasoline operation.

CUSTOM DESIGNED casting houses thermostat and J&S vaporizer, and supports the complete unit, on front of engine block.

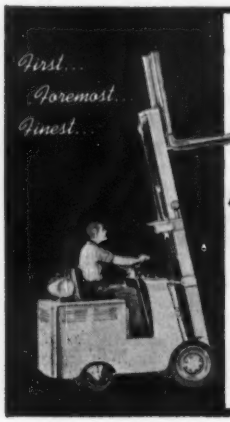
COMPLETE KIT includes vaporizer, regulators, filter, all needed bolts, gaskets, hoses, clamps, fittings, etc.

ENGINEERED for the particular motor to give top performance, power, and best gas economy. Unit is UL-listed, quality-manufactured. No leak-through, no freeze-up, no hazard.

COMPARE PRICES, cost of installation and operation, and

YOU, TOO, WILL SWITCH TO J&S

J.&S. CARBURETOR COMPANY
P.O. BOX 10391 DALLAS, TEXAS
"TWENTY YEARS IN GAS CARBURETION"



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For lift trucks and all other types of combustion engine installations, be sure of getting the finest LP Gas control equipment. Always specify REGO ... the best in the industry as well as the most complete line.

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Insurance bulletin

should be submitted to the Factory Mutual Engineering district office for review. Laboratory approval testing of L. P. gas powered trucks now in progress may indicate the need for some revision in these recommendations.

2. Tanks may be of the permanently mounted type or portable, replaceable cylinders.

3. The minimum design working pressure of fuel tanks constructed under the 1949 or earlier editions of the ASME Code, Par. U68 and U69 should be 250 psig. For tanks constructed under Par. U200 and U201 of the 1949 ASME Code, the 1950 and 1952 editions of the ASME Code, and all editions of the API-ASME Code the minimum design working pressure should be 312 psig. Containers constructed under ICC Specification 4B240 are acceptable for fuel tanks.

4. Equip all tanks with a spring-loaded relief valve. Relief valves should discharge vertically upward and protective plates should not baffle the discharge.

Relief valves on ASME containers should be set at 312 psig. start-to-discharge pressure. Relief valves on ICC containers should be set at a start-to-discharge pressure as required by ICC regulations.

Where state and local authorities will not permit relief valve start-to-discharge pressure settings in excess of the minimum design working pressure for ASME 1949 Par. U68 and U69 tanks, a relief valve start-to-discharge pressure setting of 250 lb is acceptable.

5. Equip all tanks with a liquid level gage. Permanently mounted tanks should be equipped with either a fixed length dip tube gage or an outage chamber in addition to the liquid level gage arranged so that the tank will not be filled beyond the maximum filling capacities previously specified. Magnetic type liquid level gages are preferred. Variable liquid level gages which require venting of fuel to the atmosphere are not acceptable.

6. Equip all connections to the tank, except the relief valve and filling connections having automatic back-pressure check valves, with ex-

cess flow valves to prevent dischage of the contents in the event piping or connections are broken. Provide a manuel shutoff valve on the filling connection and fuel outlet.

7. Securely fasten the tank to the truck and locate it where it will not be subject to physical damage or be displaced in the event of a collision or upset.

8. Fuel lines may be of copper tubing, steel tubing, or synthetic rubber tubing reinforced with a substantial wire braid and suitable for L. P. gas.

9. Fuel lines should be arranged to minimize vibrational and other stresses. Locate where they will not be subject to mechanical damage or exposed to engine heat.

10. Provide a solenoid valve in the liquid line from the tank, interlocked with the ignition to close automatically when the ignition switch is "off." The design of the solenoid valve shall be such that the valve seats in the direction of normal flow when de-energized and will allow backflow through the valve in the event of excess downstream pressure.

11. Equip all replaceable tanks with a tank fuel line fitting of the quick-disconnect type that provides automatic shutoff in both directions when disconnected. The fitting should be so designed that tools are not required to make or break the connection and that there is no reasonable possibility of a defective connection.

12. Heat the vaporizer with hot water from the engine rather than with engine exhaust gases.

13. Dual fuel systems are not desirable and the gasoline fuel system including the tank should be removed when a truck is converted to L. P. gas. The muffler on the engine exhaust should be retained.

14. Provide a vacuum switch operated from the intake mainfold and connected in series with the solenoid gas shutoff valve to prevent leakage of gas in the event the engine is left unattended with the ignition switch on. A pressure switch operated from the engine oil pressure may also be used for this purpose.

15. Provide a hydrostatic relief valve in the liquid line between the fuel tank shutoff valve and the solenoid valve located so as to discharge outside the engine compartment. ■

REO *selects* **CENTURY**

AS FACTORY STANDARD LP-GAS CARBURETION

Exclusively

on Super V-63 Cab-Over Model

REO TRUCKS

Four-barrel, down-draft Century metering valve carburetor factory installed on Super V-63 Cab-Over Reo Trucks.

Dual throat, down draft Century metering valve carburetor now optional equipment on all Reo Trucks.

FOR PERFORMANCE

ONLY THE BEST is good enough for *Reo* Trucks . . . and Century LP-Gas Carburetors have proved best by every test, in both laboratory and road operation. That's why Reo selected Century 3C (controlled combustion) Carburetors as exclusive factory equipment on the Super V-63 Cab-Over Reo Trucks.

The big difference in the Century 3C is the metering valve, and it makes a big difference in engine performance. Why? Because the metering valve controls and proportions the gas to give perfect fuel-air mixtures at any throttle setting – starting, idling and full power – regardless of changes in temperature, altitude or pressure. No wonder Reo has joined the ever growing list of manufacturers who install Century Carburetion. *Write for literature today! Sales and service everywhere.*

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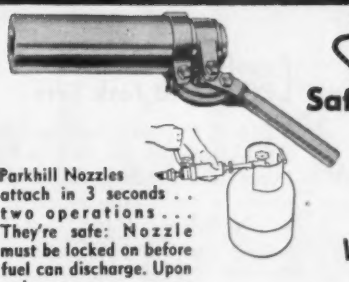
UL 3C Controlled Combustion Carburetion

Set it!
Seal it!
Forget it!

CENTURY METERING VALVE LP-GAS CARBURETION



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Safety Hose Nozzles

- *QUICKER FILLING*
- *SAFER OPERATION*
- *LOW MAINTENANCE*

Parkhill Nozzles attach in 3 seconds . . two operations . . . They're safe: Nozzle must be locked on before fuel can discharge. Upon release gas escapes away from hands . . . No Cold Burns!

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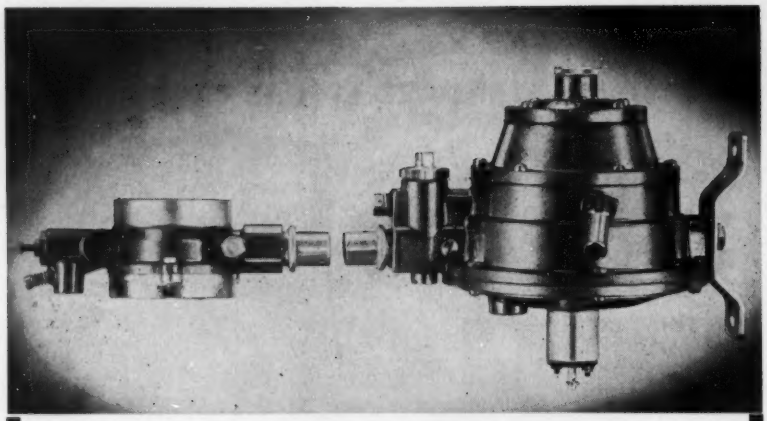

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Design

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With DIX . . . *You Save on Service*

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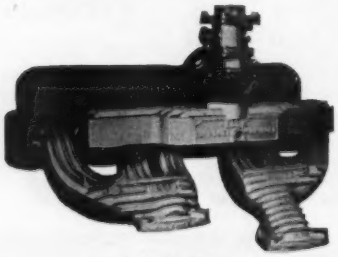
YOU GET MORE POWER..... MORE MILEAGE



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BU-POWER MANIFOLD

The ELLIS BU-POWER MANIFOLD holds vital expansion of fuel until it reaches the combustion chamber. By keeping cool, the Ellis Bu-Power Manifold packs power into performance . . . increases mileage and gives you far more satisfaction with LPG.

ELLIS MANIFOLD CO.

2212-A East Washington Blvd.

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In most cities, dial Information for the number of Ellis Manifold Distributor.

POWER NEWS

Austin Ignition appointed a distributor for Algas

The Austin Igition Co., Akron, Ohio, has recently been appointed a distributor of Algas LPG carburetion equipment.

This firm offers a complete line of LPG conversion equipment including Algas, Zenith, Marvel-Schebler and Linde. Austin Ignition can engineer, service, install, and supervise the installation of L. P. gas conversions.

R. C. Austin and R. C. Dunn are the sales and service representatives.

Pepsi-Cola chooses LPG-fueled fork lifts

Five L. P. gas-fueled Clark fork lift trucks recently put into use by the Pepsi-Cola Bottling Co., Cleveland, insure a fume-free, non-toxic atmosphere in the bottling plant, according to Ivan Lawyer, plant superintendent.

"For some years, my experience in other bottling plants has made me dissatisfied with gasoline-fueled fork lifts," Mr. Lawyer said. "Excessive fumes, high maintenance costs, and excessive trucks out of service, had all upset out operations."

Analyzing the results of the first period of operation, Mr. Lawyer continued: "During the more than six months of operating experience, all minor problems that developed have been cleared, and entirely satisfactory results both from management and operating personnel prevail at this time. Tests made from time to time show practically no carbon monoxide present in the motor exhaust, and there are no obnoxious fumes in the plant traceable to the operation of these vehicles.

Additional savings are made possible by a reduction in necessary mechanical overhauls, oil changes, and by reducing engine wear.

Taylor and Hancock form Ta-Han Co., Tulsa

B. D. Taylor and John F. Hancock have formed the Ta-Han Co., 5912 East 11th St., Tulsa, to sell and service L. P. gas carburetion equipment. The new business is located on one acre of ground which provides adequate room for servicing trucks, trailers and similar equipment.

Both men have been identified with the L. P. gas industry for a number of years. Mr. Taylor served with a Tulsa L. P. gas distributor for the past four years and prior to this was connected with the Industrial Farm Home Gas Co., Paragould, Ark. Mr. Hancock has been with a Tulsa L. P. gas distributor for the past ten years.

The new company will be a dealer for Algas carburetion equipment but will service all brands of carburetors. They will make service calls in the field.

The company plans to stock repair parts for all types of LPG carburetors.

Barbara McCandless does some pretty good figuring

Meade County, Kans., home demonstration agent Barbara McCandless shows signs of being an automotive engineer as well as a cook and homemaker. She has calculated that the recent conversion of her automobile to propane will pay for itself in 40,000 miles and then will save her more than one-half cent each mile.

Miss McCandless gets 17 miles to a gal. of gasoline as compared to 16.3 miles to a gallon of propane. To go 40,000 miles, she must use 2353 gal. of gasoline or 2454 gal. of propane. Since she estimates 26 cents per gal. for

gasoline, her 40,000 mile bill would be $699.78 for gasoline. Since propane costs 16 cents per gal. on the average, the bill for 40,000 miles will be only $392.64. This reflects a saving of $219.14 over the 40,000 miles.

In addition, the oil bill when using gasoline would be $58, Miss McCandless stated, as compared with $19.33 for propane, a saving of $38.67. The total of both oil and gasoline savings comes to $257.81 and the propane conversion cost $255.

The oil saving is due to the fact that propane as a vapor does not wash down cylinder walls so oil changes are required only every 3000 miles, the home demonstration agent points out.

On a flat road with the accelerator at a given position, Miss McCandless reports that she can go 85 mph with gasoline and 83 mph with propane.

"I have no trouble purchasing propane, she stated, since every town in Meade County has it.

Liquid gas powers Fiat's new engine

On April 23 Fiat unveiled a new six-cylinder, 200 hp "liquigas" automobile motor that runs with liquid gas instead of gasoline or diesel oil.

The new 10,675-CC motor had been the best kept secret of the Italian automobile industry, and was the highlight of the Turin International Auto Show.

The engine operates on a liquid fuel formed under pressure from a mixture of propane, butane, propilene, isobutane and butilene gases. Its advantages were described as more silent operation, less engine wear, and lower cost.

Thirteen nations were represented with 450 exhibits of cars.

Green Bay buses save money with propane

As the result of experience ranging up to more than 300,000 miles per bus, the Wisconsin Public Service Co.'s Green Bay fleet of city service buses operates on propane and the company expects to keep it that way, according to a spokesman.

The Green Bay fleet of 28 buses includes 12 Ford Model 29-B Transit buses and 16 Model 1334 - S Twin Coaches. All were delivered for operation on gasoline, and were converted after various periods of use. All are equipped with Parkhill-Wade Safety tanks, of 65-gal. capacity on the Fords, and 90-gal. on the Twins. Engine changes during conversion included installation of factory made high compression heads for the Fageol 404-cu in. engines in the Twin Coaches, and heavy duty wrist pins and planing of .090 in. from the heads of the Ford 270 engines. Carburetion equipment consists of four sets of Ensign and 24 of Algas.

In Green Bay the cost of the propane gas is 7.7 cents per gallon, plus 2 cents federal tax and 7% overhead. The cost per mile is estimated to be 2.1 to 2.2 cents for fuel and oil for propane engines or 1.5 cents for the propane alone, as against a cost of 3.5 cents including oil when gasoline was used. The saving in cost of maintenance with the use of propane is hard to figure, the superintendent said, but it is lower than with the use of gasoline. The fuel efficiency with the use of propane is figured at 10 to 15% less than with gasoline.

It has been found that the oil and filter change periods have been increased from 3000 to 18,000 miles since the change to propane gas, and it is hoped to have the motor life doubled. At the end of 1955 it was found that the running life of propane engines has been about 150,000 to 295,000 miles since being opened for any kind of internal work.

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All Classified Advertising payable with order. Copy must reach publisher's office prior to the fifth of the month preceding publication. Address: Classified Advertising Material, BUTANE-PROPANE News, 198 S. Alvarado Street, Los Angeles 57, Calif.

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$12.00 a column inch per issue. Choice of 18, 14, 12, 10 pt display type for headings. Set with 1 pt border. Maximum ad size 3". No cuts permitted. Publisher will set ad for maximum effect in space purchased.

UNDISPLAYED CLASSIFIED 15¢ a word. Set in 7 pt type without border. $3.00 minimum charge per insertion. If Blind Box number care of B-P News is used, count as five words.

POSITION WANTED. Undisplayed rate is one half of above rate, payable in advance.

DISCOUNT OF 10% if full payment is made in advance for four consecutive insertions of undisplayed ads.

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BULK PLANT MANAGER — SIX YEARS proven experience in all phases of L. P. Gas management, best references, college education, desires connection with established firm which is beginning or expanding bulk plant operations. Will relocate. Reply Box 23, BUTANE-PROPANE News, 198 So. Alvarado St., Los Angeles 57, Calif.

WANTED: JOB AS WORKING SERVICE Manager or branch manager. In West, Northwest or Canada; 15 years experience. State wages. Reply Box 28, BUTANE-PROPANE News, 198 So. Alvarado St., Los Angeles 57, Calif.

MANY YEARS OF PRACTICAL EXPERIence, combined with knowledge of the same, offered. Experiences in natural, LPG and manufactured gases, distribution and utilization; management level desired. Reply Box 34, BUTANE-PROPANE News, 198 S. Alvarado St., Los Angeles 57, Calif.

HELP WANTED

SALESMEN—COVERING BULK PLANTS and large dealers. We have an interesting, nonconflicting, nationally advertised line that the trade is using daily. All territories open. Reply Box 14, BUTANE-PROPANE News, 198 So. Alvarado St., Los Angeles 57, Calif.

WANTED: BULK PLANT MANAGER IN Propane and Ammonia Operation in Minnesota. Must have long experience and must be a top man to qualify. Reply Box 37, BUTANE-PROPANE News, 198 S. Alvarado St., Los Angeles 57, Calif.

A NATIONAL LP-GAS CARBURETOR MANUFACTURER has an opening for a man with the following qualifications: good technical knowledge of internal combustion engines, must be good salesman, sober, hard worker, prepared to travel over a large territory (Southern states). Compensation open if you can deliver. Send complete history and references to Box 21, BUTANE-PROPANE News, 198 So. Alvarado St., Los Angeles 57, Calif.

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Sales Administrators

Leading Chicago valve manufacturer has opportunity for field and office personnel with Sales and engineering backgrounds. Send resume with salary requirements to:

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BUTANE-PROPANE NEWS
198 So. Alvarado St.
Los Angeles 57, Calif.

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LPG BULK PLANTS. WE SPECIALIZE IN selling petroleum properties throughout Midwest. Have number desirable plants for sale. OLE BRODD, PETROLEUM MARKETERS, 605 Produce Bank Bldg., Minneapolis, Minnesota.

FOR SALE: L.P.G. BULK PLANT. LOcated Western Nebraska. A well established small operation with a large return on investment. Includes truck, storage, office, and equipment. Average 30,000 gal. per month. For further information, write Box 36, BUTANE-PROPANE News, 198 S. Alvarado St., Los Angeles 57, Calif.

BUSINESS FOR SALE: GASOLINE AND oil, Butane and Propane—in this Southwest Kansas town, County Seat, population 900, on Colorado line. Wide territory to cover. Bobtail from Plant. Batterton Gas and Oil Company, Johnson, Kansas.

FOR SALE: MIDWESTERN BUTANE-PROPANE business. Annual gallonage over 2,500,000. Bulk storage over 80,000 gallons. Propane transport. Gasoline service station and tank wagon in connection over 50,000 average monthly gallonage. Reason for listing — poor health. Send financial reference with inquiry. Reply Box 33, BUTANE-PROPANE News, 198 S. Alvarado St., Los Angeles 57, Calif.

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Reply personally to owner.

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BUSINESS WANTED

Bottled gas—Propane-Butane, etc. Must net $15,000 minimum and have strong growth factor.

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WHITE PINE, MICHIGAN

FOR SALE — TRUCKS - TRAILERS

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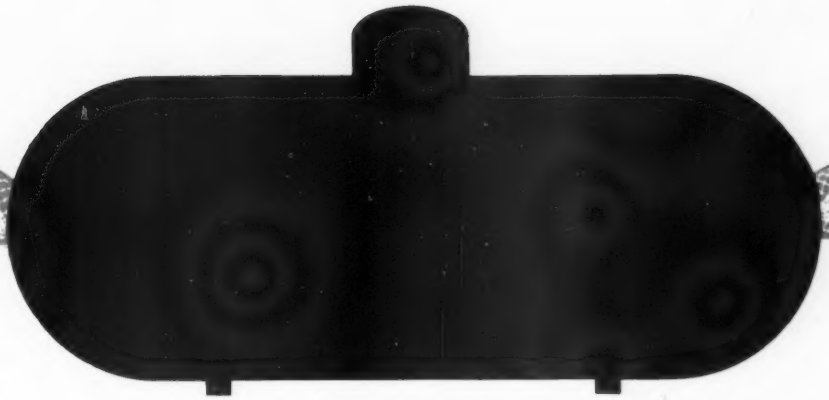

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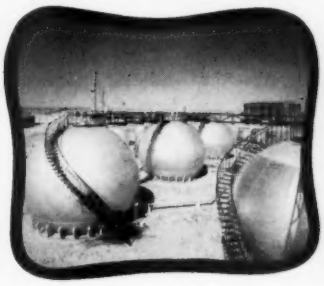

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